

**CPC****C12Y****COOPERATIVE PATENT CLASSIFICATION****ENZYMES****NOTES**

1. This subclass covers all enzymes.
2. In this subclass, each enzyme is classified according to their EC number of the "Enzyme Nomenclature" (as valid on 1 January 2012) recommended by the Nomenclature Committee of the International Union of Biochemistry and Molecular Biology. The EC number appears in the subgroups in parenthesis and is reflected in the classification symbol: the EC number with the notation a.bb.cc.ddd is rendered into a CPC symbol [C12Y](#) ABB/CCDDD (with no trailing zeroes at the end) where:

- EC a.bb.cc.ddd: a ranges from 1 – 6; CPC symbol: A = 1 – 6
- EC a.bb.cc.ddd: b ranges from 1 – 99 (\*); CPC symbol: B = 01 – 99
- EC a.bb.cc.ddd: c ranges from 1 – 99 (\*); CPC symbol: C = 01 – 99
- EC a.bb.cc.ddd: d ranges from 1 – 400 (\*); CPC symbol: D = 001 – 400
- (\*) not all numbers are used

Examples:

- Alcohol dehydrogenase: EC 1.1.1.1. is classified in [C12Y 101/01001](#)
- Togavirin: EC 3.4.21.90 is classified in [C12Y 304/2109](#)
- Hepsin: EC 3.4.21.106 is classified in [C12Y 304/21106](#)
- Cobaltochelatase: EC 6.6.1.2 is classified in [C12Y 606/01002](#)

3. This subclass is for discretionary supplementary classification of subject matter already classified as such in other classification places, e.g.:
  - [A01N 1/00](#): Compositions containing enzymes and use of the compositions and compounds for preservation of bodies of humans or animals or parts thereof
  - [A01N 3/00](#): Compositions containing enzymes and use of the compositions and compounds for preservation of plants or parts thereof
  - [A01N 63/00](#): Biocides, pest repellents or attractants or plant growth regulators containing enzymes
  - [A21D 10/00](#), [A21D 13/00](#) : Bakery products which may contain enzymes
  - [A23](#): Foods or foodstuffs containing enzymes
  - [A61K](#): Preparations for medical dental or toilet purposes containing enzymes
  - [A61K 31/7088](#): Medical preparations containing nucleic acids encoding enzymes
  - [A61K 48/00](#): Medical preparations containing genetic material encoding enzymes which is inserted into cells of the living body to treat genetic diseases; Gene therapy
  - [A61L 12/082](#): Methods or apparatus for disinfecting or sterilising contact lenses in combination with enzymes
  - [A61L 15/38](#): Bandages, dressings or absorbent pads for physiological fluids containing enzymes
  - [A61L 27/3683](#): Material for prostheses subjected to enzyme treatment prior to implantation
  - [C07K 14/81](#): Protease inhibitors
  - [C07K 16/40](#): Antibodies against enzymes
  - [C11D 3/386](#): Detergent compositions containing enzymes
  - [C12C 1/00](#): Preparation of malt
  - [C12M](#): Apparatus for enzymology

## C12Y

(continued)

- [C12N 9/00](#): Enzymes
  - [C12N 11/00](#): Carrier-bound or immobilised enzymes
  - [C12N 13/00](#): Treatment of enzymes with electrical or wave energy
  - [C12N 15/00](#): Nucleic acids encoding (part of) enzymes
  - [C12N 15/113](#), [C12N 15/8281](#): Non-encoding nucleic acids modulating the expression of genes for enzymes
  - [C12P](#): Preparation of compounds using enzymes
  - [C12Q 1/00](#): Measuring or testing processes involving enzymes; Compositions therefor; Processes of preparing such compositions
  - [G01N 33/573](#): Immunoassays for enzymes
4. Specific classification rules for the allocation of [C12Y](#) symbols together with any of the groups listed above, are specified within the relevant group, if available.
  5. The classification symbols of this subclass are not listed first when assigned to patent documents.

**C12Y 101/00****Oxidoreductases acting on the CH-OH group of donors (1.1)**

- |                |   |
|----------------|---|
| C12Y 101/01    | . with NAD <sup>+</sup> or NADP <sup>+</sup> as acceptor (1.1.1)  |
| C12Y 101/01001 | . . Alcohol dehydrogenase (1.1.1.1)   |
| C12Y 101/01002 | . . Alcohol dehydrogenase (NADP <sup>+</sup> ) (1.1.1.2), i.e. aldehyde reductase                                       |
| C12Y 101/01003 | . . Homoserine dehydrogenase (1.1.1.3)  |
| C12Y 101/01004 | . . R,R-butanediol dehydrogenase (1.1.1.4)  |
| C12Y 101/01005 | . . Acetoin dehydrogenase (1.1.1.5) ( <a href="#">C12Y 101/01303</a> , <a href="#">C12Y 101/01304</a> takes precedence) |
| C12Y 101/01006 | . . Glycerol dehydrogenase (1.1.1.6)  |
| C12Y 101/01007 | . . Propanediol-phosphate dehydrogenase (1.1.1.7)   |
| C12Y 101/01008 | . . Glycerol-3-phosphate dehydrogenase (NAD <sup>+</sup> ) (1.1.1.8)  |
| C12Y 101/01009 | . . D-Xylulose reductase (1.1.1.9), i.e. xylitol dehydrogenase  |
| C12Y 101/0101  | . . L-Xylulose reductase (1.1.1.10)   |
| C12Y 101/01011 | . . D-Arabinitol 4-dehydrogenase (1.1.1.11)   |
| C12Y 101/01012 | . . L-Arabinitol 4-dehydrogenase (1.1.1.12)   |
| C12Y 101/01013 | . . L-Arabinitol 2-dehydrogenase (1.1.1.13)   |
| C12Y 101/01014 | . . L-Iditol 2-dehydrogenase (1.1.1.14), i.e. sorbitol-dehydrogenase  |
| C12Y 101/01015 | . . D-iditol 2-dehydrogenase (1.1.1.15)   |
| C12Y 101/01016 | . . Galactitol 2-dehydrogenase (1.1.1.16)   |
| C12Y 101/01017 | . . Mannitol-1-phosphate 5-dehydrogenase (1.1.1.17)   |
| C12Y 101/01018 | . . Inositol 2-dehydrogenase (1.1.1.18)   |
| C12Y 101/01019 | . . Glucuronate reductase (1.1.1.19)  |
| C12Y 101/0102  | . . Glucuronolactone reductase (1.1.1.20)   |
| C12Y 101/01021 | . . Aldehyde reductase (1.1.1.21), i.e. aldose-reductase  |
| C12Y 101/01022 | . . UDP-glucose 6-dehydrogenase (1.1.1.22)  |
| C12Y 101/01023 | . . Histidinol dehydrogenase (1.1.1.23)   |
| C12Y 101/01024 | . . Quinate dehydrogenase (1.1.1.24)  |

C12Y 101/01025	. . Shikimate dehydrogenase (1.1.1.25)
C12Y 101/01026	. . Glyoxylate reductase (1.1.1.26)
C12Y 101/01027	. . L-Lactate dehydrogenase (1.1.1.27)
C12Y 101/01028	. . D-Lactate dehydrogenase (1.1.1.28)
C12Y 101/01029	. . Glycerate dehydrogenase (1.1.1.29)
C12Y 101/0103	. . 3-Hydroxybutyrate dehydrogenase (1.1.1.30)
C12Y 101/01031	. . 3-Hydroxyisobutyrate dehydrogenase (1.1.1.31)
C12Y 101/01032	. . Mevaldate reductase (1.1.1.32)
C12Y 101/01033	. . Mevaldate reductase (NADPH) (1.1.1.33)
C12Y 101/01034	. . Hydroxymethylglutaryl-CoA reductase (NADPH) (1.1.1.34)
C12Y 101/01035	. . 3-Hydroxyacyl-CoA dehydrogenase (1.1.1.35)
C12Y 101/01036	. . Acetoacetyl-CoA reductase (1.1.1.36)
C12Y 101/01037	. . Malate dehydrogenase (1.1.1.37)
C12Y 101/01038	. . Malate dehydrogenase (oxaloacetate-decarboxylating) (1.1.1.38)
C12Y 101/01039	. . Malate dehydrogenase (decarboxylating) (1.1.1.39)
C12Y 101/0104	. . Malate dehydrogenase (oxaloacetate-decarboxylating) (NADP+) (1.1.1.40)
C12Y 101/01041	. . Isocitrate dehydrogenase (NAD+) (1.1.1.41)
C12Y 101/01042	. . Isocitrate dehydrogenase (NADP+) (1.1.1.42)
C12Y 101/01043	. . Phosphogluconate 2-dehydrogenase (1.1.1.43)
C12Y 101/01044	. . Phosphogluconate dehydrogenase (decarboxylating) (1.1.1.44)
C12Y 101/01045	. . L-Gulonate 3-dehydrogenase (1.1.1.45)
C12Y 101/01046	. . L-Arabinose 1-dehydrogenase (1.1.1.46)
C12Y 101/01047	. . Glucose 1-dehydrogenase (1.1.1.47)
C12Y 101/01048	. . D-Galactose 1-dehydrogenase (1.1.1.48)
C12Y 101/01049	. . Glucose-6-phosphate dehydrogenase (1.1.1.49)
C12Y 101/0105	. . 3Alpha-hydroxysteroid 3-dehydrogenase (B-specific) (1.1.1.50)
C12Y 101/01051	. . 3 (or 17)-Beta-hydroxysteroid dehydrogenase (1.1.1.51)
C12Y 101/01052	. . 3-Alpha-hydroxycholesterol dehydrogenase (1.1.1.52)
C12Y 101/01053	. . 3-Alpha (or 20-beta)-hydroxysteroid dehydrogenase (1.1.1.53)
C12Y 101/01054	. . Allyl-alcohol dehydrogenase (1.1.1.54)
C12Y 101/01055	. . Lactaldehyde reductase (NADPH) (1.1.1.55)
C12Y 101/01056	. . Ribitol 2-dehydrogenase (1.1.1.56)
C12Y 101/01057	. . Fructuronate reductase (1.1.1.57)
C12Y 101/01058	. . Tagaturonate reductase (1.1.1.58)
C12Y 101/01059	. . 3-Hydroxypropionate dehydrogenase (1.1.1.59)
C12Y 101/0106	. . 2-Hydroxy-3-oxopropionate reductase (1.1.1.60)
C12Y 101/01061	. . 4-Hydroxybutyrate dehydrogenase (1.1.1.61)
C12Y 101/01062	. . 17Beta-estradiol 17-dehydrogenase (1.1.1.62)
C12Y 101/01064	. . Testosterone 17-beta-dehydrogenase (NADP+) (1.1.1.64)
C12Y 101/01065	. . Pyridoxine 4-dehydrogenase (1.1.1.65)

C12Y 101/01066	. .	Omega-hydroxydecanoate dehydrogenase (1.1.1.66)
C12Y 101/01067	. .	Mannitol 2-dehydrogenase (1.1.1.67)
C12Y 101/01069	. .	Gluconate 5-dehydrogenase (1.1.1.69)
C12Y 101/01071	. .	Alcohol dehydrogenase [NAD(P)+] (1.1.1.71)
C12Y 101/01072	. .	Glycerol dehydrogenase (NADP+) (1.1.1.72)
C12Y 101/01073	. .	Octanol dehydrogenase (1.1.1.73)
C12Y 101/01075	. .	(R)-Aminopropanol dehydrogenase (1.1.1.75)
C12Y 101/01076	. .	(S,S)-Butanediol dehydrogenase (1.1.1.76)
C12Y 101/01077	. .	Lactaldehyde reductase (1.1.1.77)
C12Y 101/01078	. .	Methylglyoxal reductase (NADH-dependent) (1.1.1.78)
C12Y 101/01079	. .	Glyoxylate reductase (NADP+) (1.1.1.79)
C12Y 101/0108	. .	Isopropanol dehydrogenase (NADP+) (1.1.1.80)
C12Y 101/01081	. .	Hydroxypyruvate reductase (1.1.1.81)
C12Y 101/01082	. .	Malate dehydrogenase (NADP+) (1.1.1.82)
C12Y 101/01083	. .	D-Malate dehydrogenase (decarboxylating) (1.1.1.83)
C12Y 101/01084	. .	Dimethylmalate dehydrogenase (1.1.1.84)
C12Y 101/01085	. .	3-Isopropylmalate dehydrogenase (1.1.1.85)
C12Y 101/01086	. .	Ketol-acid reductoisomerase (1.1.1.86)
C12Y 101/01087	. .	Homoisocitrate dehydrogenase (1.1.1.87)
C12Y 101/01088	. .	Hydroxymethylglutaryl-CoA reductase (1.1.1.88)
C12Y 101/0109	. .	Aryl-alcohol dehydrogenase (1.1.1.90)
C12Y 101/01091	. .	Aryl-alcohol dehydrogenase (NADP+) (1.1.1.91)
C12Y 101/01092	. .	Oxaloglycolate reductase (decarboxylating) (1.1.1.92)
C12Y 101/01093	. .	Tartrate dehydrogenase (1.1.1.93)
C12Y 101/01094	. .	Glycerol-3-phosphate dehydrogenase (NAD(P)+)(1.1.1.94)
C12Y 101/01095	. .	Phosphoglycerate dehydrogenase (1.1.1.95)
C12Y 101/01096	. .	Diiodophenylpyruvate reductase (1.1.1.96)
C12Y 101/01097	. .	3-Hydroxybenzyl-alcohol dehydrogenase (1.1.1.97)
C12Y 101/01098	. .	(R)-2-Hydroxy-fatty-acid dehydrogenase (1.1.1.98)
C12Y 101/01099	. .	(S)-2-Hydroxy-fatty-acid dehydrogenase (1.1.1.99)
C12Y 101/011	. .	3-Oxoacyl-[acyl-carrier-protein] reductase (1.1.1.100)
C12Y 101/01101	. .	Acylglycerone-phosphate reductase (1.1.1.101)
C12Y 101/01102	. .	3-Dehydrosphinganine reductase (1.1.1.102)
C12Y 101/01103	. .	L-Threonine 3-dehydrogenase (1.1.1.103)
C12Y 101/01104	. .	4-Oxoproline reductase (1.1.1.104)
C12Y 101/01105	. .	Retinol dehydrogenase (1.1.1.105)
C12Y 101/01106	. .	Pantoate 4-dehydrogenase (1.1.1.106)
C12Y 101/01107	. .	Pyridoxal 4-dehydrogenase (1.1.1.107)
C12Y 101/01108	. .	Carnitine 3-dehydrogenase (1.1.1.108)
C12Y 101/0111	. .	Indolelactate dehydrogenase (1.1.1.110)

C12Y 101/01111	. .	3-(Imidazol-5-yl)lactate dehydrogenase (1.1.1.111)
C12Y 101/01112	. .	Indanol dehydrogenase (1.1.1.112)
C12Y 101/01113	. .	L-Xylose 1-dehydrogenase (1.1.1.113)
C12Y 101/01114	. .	Apiose 1-reductase (1.1.1.114)
C12Y 101/01115	. .	Ribose 1-dehydrogenase (NADP+) (1.1.1.115)
C12Y 101/01116	. .	D-Arabinose 1-dehydrogenase (1.1.1.116)
C12Y 101/01117	. .	D-Arabinose 1-dehydrogenase (NAD(P)+)(1.1.1.117)
C12Y 101/01118	. .	Glucose 1-dehydrogenase (NAD+) (1.1.1.118)
C12Y 101/01119	. .	Glucose 1-dehydrogenase (NADP+) (1.1.1.119)
C12Y 101/0112	. .	Galactose 1-dehydrogenase (NADP+) (1.1.1.120)
C12Y 101/01121	. .	Aldose 1-dehydrogenase (1.1.1.121)
C12Y 101/01122	. .	D-Threo-aldose 1-dehydrogenase (1.1.1.122)
C12Y 101/01123	. .	Sorbose 5-dehydrogenase (NADP+) (1.1.1.123)
C12Y 101/01124	. .	Fructose 5-dehydrogenase (NADP+) (1.1.1.124)
C12Y 101/01125	. .	2-Deoxy-D-gluconate 3-dehydrogenase (1.1.1.125)
C12Y 101/01126	. .	2-Dehydro-3-deoxy-D-gluconate 6-dehydrogenase (1.1.1.126)
C12Y 101/01127	. .	2-Dehydro-3-deoxy-D-gluconate 5-dehydrogenase (1.1.1.127)
C12Y 101/01129	. .	L-Threonate 3-dehydrogenase (1.1.1.129)
C12Y 101/0113	. .	3-Dehydro-L-gulonate 2-dehydrogenase (1.1.1.130)
C12Y 101/01131	. .	Mannuronate reductase (1.1.1.131)
C12Y 101/01132	. .	GDP-mannose 6-dehydrogenase (1.1.1.132)
C12Y 101/01133	. .	dTDP-4-dehydrorhamnose reductase (1.1.1.133)
C12Y 101/01134	. .	dTDP-6-deoxy-L-talose 4-dehydrogenase (1.1.1.134)
C12Y 101/01135	. .	GDP-6-deoxy-D-talose 4-dehydrogenase (1.1.1.135)
C12Y 101/01136	. .	UDP-N-acetylglucosamine 6-dehydrogenase (1.1.1.136)
C12Y 101/01137	. .	Ribitol-5-phosphate 2-dehydrogenase (1.1.1.137)
C12Y 101/01138	. .	Mannitol 2-dehydrogenase (NADP+) (1.1.1.138)
C12Y 101/0114	. .	Sorbitol-6-phosphate 2-dehydrogenase (1.1.1.140)
C12Y 101/01141	. .	15-Hydroxyprostaglandin dehydrogenase (NAD+) (1.1.1.141)
C12Y 101/01142	. .	D-Pinitol dehydrogenase (1.1.1.142)
C12Y 101/01143	. .	Sequoyitol dehydrogenase (1.1.1.143)
C12Y 101/01144	. .	Perillyl-alcohol dehydrogenase (1.1.1.144)
C12Y 101/01145	. .	3-Beta-hydroxy-DELTA5-steroid dehydrogenase (1.1.1.145)
C12Y 101/01146	. .	11-Beta-hydroxysteroid dehydrogenase (1.1.1.146)
C12Y 101/01147	. .	16-Alpha-hydroxysteroid dehydrogenase (1.1.1.147)
C12Y 101/01148	. .	Estradiol 17alpha-dehydrogenase (1.1.1.148)
C12Y 101/01149	. .	20-Alpha-hydroxysteroid dehydrogenase (1.1.1.149)
C12Y 101/0115	. .	21-Hydroxysteroid dehydrogenase (NAD+) (1.1.1.150)
C12Y 101/01151	. .	21-Hydroxysteroid dehydrogenase (NADP+) (1.1.1.151)
C12Y 101/01152	. .	3-Alpha-hydroxy-5-beta-androstane-17-one 3-alpha-dehydrogenase (1.1.1.152)

C12Y 101/01153	. .	Sepiapterin reductase (L-erythro-7,8-dihydrobiopterin forming) (1.1.1.153)
C12Y 101/01154	. .	Ureidoglycolate dehydrogenase (1.1.1.154)
C12Y 101/01156	. .	Glycerol 2-dehydrogenase (NADP+) (1.1.1.156)
C12Y 101/01157	. .	3-Hydroxybutyryl-CoA dehydrogenase (1.1.1.157)
C12Y 101/01158	. .	UDP-N-acetylmuramate dehydrogenase (1.1.1.158), i.e. UDP-N-acetylenolpyruvoylglucosamine reductase
C12Y 101/01159	. .	7-Alpha-hydroxysteroid dehydrogenase (1.1.1.159)
C12Y 101/0116	. .	Dihydrobunolol dehydrogenase (1.1.1.160)
C12Y 101/01162	. .	Erythrulose reductase (1.1.1.162)
C12Y 101/01163	. .	Cyclopentanol dehydrogenase (1.1.1.163)
C12Y 101/01164	. .	Hexadecanol dehydrogenase (1.1.1.164)
C12Y 101/01165	. .	2-Alkyn-1-ol dehydrogenase (1.1.1.165)
C12Y 101/01166	. .	Hydroxycyclohexanecarboxylate dehydrogenase (1.1.1.166)
C12Y 101/01167	. .	Hydroxymalonate dehydrogenase (1.1.1.167)
C12Y 101/01168	. .	2-Dehydropantolactone reductase (A-specific) (1.1.1.168)
C12Y 101/01169	. .	2-Dehydropantoate 2-reductase (1.1.1.169), i.e. ketopantoate-reductase
C12Y 101/0117	. .	3Beta-hydroxy-4alpha-carboxy-sterol 3-dehydrogenase (decarboxylating) (1.1.1.170)
C12Y 101/01172	. .	2-Oxo adipate reductase (1.1.1.172)
C12Y 101/01173	. .	L-Rhamnose 1-dehydrogenase (1.1.1.173)
C12Y 101/01174	. .	Cyclohexane-1,2-diol dehydrogenase (1.1.1.174)
C12Y 101/01175	. .	D-Xylose 1-dehydrogenase (1.1.1.175)
C12Y 101/01176	. .	12-Alpha-hydroxysteroid dehydrogenase (1.1.1.176)
C12Y 101/01177	. .	Glycerol-3-phosphate 1-dehydrogenase (NADP+) (1.1.1.177)
C12Y 101/01178	. .	3-Hydroxy-2-methylbutyryl-CoA dehydrogenase (1.1.1.178)
C12Y 101/01179	. .	D-Xylose 1-dehydrogenase (NADP+) (1.1.1.179)
C12Y 101/01181	. .	Cholest-5-ene-3-beta,7-alpha-diol 3-beta-dehydrogenase (1.1.1.181)
C12Y 101/01182	. .	Fenchol dehydrogenase (1.1.1.182) ( <a href="#">C12Y 101/01198</a> , <a href="#">C12Y 101/01227</a> , <a href="#">C12Y 101/01228 take precedence</a> )
C12Y 101/01183	. .	Geraniol dehydrogenase (1.1.1.183)
C12Y 101/01184	. .	Carbonyl reductase (NADPH) (1.1.1.184)
C12Y 101/01185	. .	L-Glycol dehydrogenase (1.1.1.185)
C12Y 101/01186	. .	dTDP-galactose 6-dehydrogenase (1.1.1.186)
C12Y 101/01187	. .	GDP-4-dehydro-D-rhamnose reductase (1.1.1.187)
C12Y 101/01188	. .	Prostaglandin-F synthase (1.1.1.188)
C12Y 101/01189	. .	Prostaglandin-E(2) 9-reductase (1.1.1.189)
C12Y 101/0119	. .	Indole-3-acetaldehyde reductase (NADH) (1.1.1.190)
C12Y 101/01191	. .	Indole-3-acetaldehyde reductase (NADPH) (1.1.1.191)
C12Y 101/01192	. .	Long-chain-alcohol dehydrogenase (1.1.1.192)
C12Y 101/01193	. .	5-Amino-6-(5-phosphoribosylamino)uracil reductase (1.1.1.193)
C12Y 101/01194	. .	Coniferyl-alcohol dehydrogenase (1.1.1.194)



C12Y 101/01195	. . Cinnamyl-alcohol dehydrogenase (1.1.1.195)
C12Y 101/01196	. . 15-Hydroxyprostaglandin-D dehydrogenase (NADP+) (1.1.1.196)
C12Y 101/01197	. . 15-Hydroxyprostaglandin dehydrogenase (NADP+) (1.1.1.197)
C12Y 101/01198	. . (+)-Borneol dehydrogenase (1.1.1.198)
C12Y 101/01199	. . (S)-Usnate reductase (1.1.1.199)
C12Y 101/012	. . Aldose-6-phosphate reductase (NADPH) (1.1.1.200)
C12Y 101/01201	. . 7-Beta-hydroxysteroid dehydrogenase (NADP+) (1.1.1.201)
C12Y 101/01202	. . 1,3-Propanediol dehydrogenase (1.1.1.202)
C12Y 101/01203	. . Uronate dehydrogenase (1.1.1.203)
C12Y 101/01205	. . IMP dehydrogenase (1.1.1.205)
C12Y 101/01206	. . Tropinone reductase I (1.1.1.206)
C12Y 101/01207	. . (-)-Menthol dehydrogenase (1.1.1.207)
C12Y 101/01208	. . (+)-Neomenthol dehydrogenase (1.1.1.208)
C12Y 101/01209	. . 3 (or 17)-Alpha-hydroxysteroid dehydrogenase (1.1.1.209)
C12Y 101/0121	. . 3-Beta (or 20-alpha)-hydroxysteroid dehydrogenase (1.1.1.210)
C12Y 101/01211	. . Long-chain-3-hydroxyacyl-CoA dehydrogenase (1.1.1.211)
C12Y 101/01212	. . 3-Oxoacyl-[acyl-carrier-protein] reductase (NADH) (1.1.1.212)
C12Y 101/01213	. . 3Alpha-hydroxysteroid 3-dehydrogenase (A-specific) (1.1.1.213)
C12Y 101/01214	. . 2-Dehydropantolactone reductase (B-specific) (1.1.1.214)
C12Y 101/01215	. . Gluconate 2-dehydrogenase (1.1.1.215)
C12Y 101/01216	. . Farnesol dehydrogenase (1.1.1.216)
C12Y 101/01217	. . Benzyl-2-methyl-hydroxybutyrate dehydrogenase (1.1.1.217)
C12Y 101/01218	. . Morphine 6-dehydrogenase (1.1.1.218)
C12Y 101/01219	. . Dihydrokaempferol 4-reductase (1.1.1.219), i.e. dihydroflavonol-4-reductase
C12Y 101/0122	. . 6-Pyruvoyltetrahydropterin 2'-reductase (1.1.1.220)
C12Y 101/01221	. . Vomifoliol dehydrogenase (1.1.1.221)
C12Y 101/01222	. . (R)-4-Hydroxyphenyllactate dehydrogenase (1.1.1.222)
C12Y 101/01223	. . Isopiperitenol dehydrogenase (1.1.1.223)
C12Y 101/01224	. . Mannose-6-phosphate 6-reductase (1.1.1.224)
C12Y 101/01225	. . Chlordecone reductase (1.1.1.225)
C12Y 101/01226	. . 4-Hydroxycyclohexanecarboxylate dehydrogenase (1.1.1.226)
C12Y 101/01227	. . (-)-Borneol dehydrogenase (1.1.1.227)
C12Y 101/01228	. . (+)-Sabinol dehydrogenase (1.1.1.228)
C12Y 101/01229	. . Diethyl 2-methyl-3-oxosuccinate reductase (1.1.1.229)
C12Y 101/0123	. . 3-Alpha-hydroxyglycyrrhetinate dehydrogenase (1.1.1.230)
C12Y 101/01231	. . 15-Hydroxyprostaglandin-I dehydrogenase (NADP+) (1.1.1.231)
C12Y 101/01232	. . 15-Hydroxyicosatetraenoate dehydrogenase (1.1.1.232)
C12Y 101/01233	. . N-Acylmannosamine 1-dehydrogenase (1.1.1.233)
C12Y 101/01234	. . Flavanone 4-reductase (1.1.1.234)
C12Y 101/01235	. . 8-Oxocoformycin reductase (1.1.1.235)

C12Y 101/01236	. . Tropinone reductase II (1.1.1.236)
C12Y 101/01237	. . Hydroxyphenylpyruvate reductase (1.1.1.237)
C12Y 101/01238	. . 12-Beta-hydroxysteroid dehydrogenase (1.1.1.238)
C12Y 101/01239	. . 3Alpha(17beta)-hydroxysteroid dehydrogenase (NAD+) (1.1.1.239), i.e. testosterone 17beta-dehydrogenase
C12Y 101/0124	. . N-Acetylhexosamine 1-dehydrogenase (1.1.1.240)
C12Y 101/01241	. . 6-Endo-hydroxycineole dehydrogenase (1.1.1.241)
C12Y 101/01243	. . Carveol dehydrogenase (1.1.1.243)
C12Y 101/01244	. . Methanol dehydrogenase (1.1.1.244)
C12Y 101/01245	. . Cyclohexanol dehydrogenase (1.1.1.245)
C12Y 101/01246	. . Pterocarpin synthase (1.1.1.246)
C12Y 101/01247	. . Codeinone reductase (NADPH) (1.1.1.247)
C12Y 101/01248	. . Salutaridine reductase (NADPH) (1.1.1.248)
C12Y 101/0125	. . D-Arabinitol 2-dehydrogenase (1.1.1.250)
C12Y 101/01251	. . Galactitol-1-phosphate 5-dehydrogenase (1.1.1.251)
C12Y 101/01252	. . Tetrahydroxynaphthalene reductase (1.1.1.252)
C12Y 101/01254	. . (S)-Carnitine 3-dehydrogenase (1.1.1.254)
C12Y 101/01255	. . Mannitol dehydrogenase (1.1.1.255)
C12Y 101/01256	. . Fluoren-9-ol dehydrogenase (1.1.1.256)
C12Y 101/01257	. . 4-(Hydroxymethyl)benzenesulfonate dehydrogenase (1.1.1.257)
C12Y 101/01258	. . 6-Hydroxyhexanoate dehydrogenase (1.1.1.258)
C12Y 101/01259	. . 3-Hydroxypimeloyl-CoA dehydrogenase (1.1.1.259)
C12Y 101/0126	. . Sulcatone reductase (1.1.1.260)
C12Y 101/01261	. . sn-Glycerol-1-phosphate dehydrogenase (1.1.1.261)
C12Y 101/01262	. . 4-Hydroxythreonine-4-phosphate dehydrogenase (1.1.1.262)
C12Y 101/01263	. . 1,5-Anhydro-D-fructose reductase (1.1.1.263)
C12Y 101/01264	. . L-Idonate 5-dehydrogenase (1.1.1.264), i.e. L-idonate 2-dehydrogenase
C12Y 101/01265	. . 3-Methylbutanal reductase (1.1.1.265)
C12Y 101/01266	. . dTDP-4-dehydro-6-deoxyglucose reductase (1.1.1.266)
C12Y 101/01267	. . 1-Deoxy-D-xylulose-5-phosphate reductoisomerase (1.1.1.267)
C12Y 101/01268	. . 2-(R)-Hydroxypropyl-CoM dehydrogenase (1.1.1.268)
C12Y 101/01269	. . 2-(S)-Hydroxypropyl-CoM dehydrogenase (1.1.1.269)
C12Y 101/0127	. . 3Beta-hydroxysteroid 3-dehydrogenase (1.1.1.270)
C12Y 101/01271	. . GDP-L-fucose synthase (1.1.1.271)
C12Y 101/01272	. . (R)-2-Hydroxyacid dehydrogenase (1.1.1.272)
C12Y 101/01273	. . Velloimine dehydrogenase (1.1.1.273)
C12Y 101/01274	. . 2,5-Didehydrogluconate reductase (1.1.1.274), i.e. 2,5-diketo-D-gluconic acid reductase
C12Y 101/01275	. . (+)-Trans-carveol dehydrogenase (1.1.1.275)
C12Y 101/01276	. . Serine 3-dehydrogenase (1.1.1.276)



C12Y 101/01277	. . 3-Beta-hydroxy-5-beta-steroid dehydrogenase (1.1.1.277)
C12Y 101/01278	. . 3-Beta-hydroxy-5-alpha-steroid dehydrogenase (1.1.1.278)
C12Y 101/01279	. . (R)-3-Hydroxyacid-ester dehydrogenase (1.1.1.279)
C12Y 101/0128	. . (S)-3-Hydroxyacid-ester dehydrogenase (1.1.1.280)
C12Y 101/01281	. . GDP-4-dehydro-6-deoxy-D-mannose reductase (1.1.1.281)
C12Y 101/01282	. . Quinate/shikimate dehydrogenase (1.1.1.282)
C12Y 101/01283	. . Methylglyoxal reductase (NADPH-dependent) (1.1.1.283)
C12Y 101/01284	. . S-(hydroxymethyl)glutathione dehydrogenase (1.1.1.284), i.e. nitroreductase
C12Y 101/01285	. . 3"-Deamino-3"-oxonicotianamine reductase (1.1.1.285)
C12Y 101/01286	. . Isocitrate--homoisocitrate dehydrogenase (1.1.1.286)
C12Y 101/01287	. . D-Arabinitol dehydrogenase (NADP+) (1.1.1.287)
C12Y 101/01288	. . Xanthoxin dehydrogenase (1.1.1.288)
C12Y 101/01289	. . Sorbose reductase (1.1.1.289)
C12Y 101/0129	. . 4-Phosphoerythronate dehydrogenase (1.1.1.290)
C12Y 101/01291	. . 2-Hydroxymethylglutarate dehydrogenase (1.1.1.291)
C12Y 101/01292	. . 1,5-Anhydro-D-fructose reductase (1,5-anhydro-D-mannitol-forming) (1.1.1.292)
C12Y 101/01294	. . Chlorophyll(ide) b reductase (1.1.1.294)
C12Y 101/01295	. . Momilactone-A synthase (1.1.1.295)
C12Y 101/01296	. . Dihydrocarveol dehydrogenase (1.1.1.296)
C12Y 101/01297	. . Limonene-1,2-diol dehydrogenase (1.1.1.297)
C12Y 101/01298	. . 3-Hydroxypropionate dehydrogenase (NADP+) (1.1.1.298)
C12Y 101/01299	. . Malate dehydrogenase (NAD(P)+)(1.1.1.299)
C12Y 101/013	. . NADP-retinol dehydrogenase (1.1.1.300)
C12Y 101/01301	. . D-Arabitol-phosphate dehydrogenase (1.1.1.301)
C12Y 101/01302	. . 2,5-Diamino-6-(ribosylamino)-4(3H)-pyrimidinone 5'-phosphate reductase (1.1.1.302)
C12Y 101/01303	. . Diacetyl reductase, [(R)-acetoin forming] (1.1.1.303)
C12Y 101/01304	. . Diacetyl reductase, (S)-acetoin forming (1.1.1.304)
C12Y 101/01305	. . UDP-glucuronic acid dehydrogenase (UDP-4-keto-hexauronic acid decarboxylating)(1.1.1.305)
C12Y 101/01306	. . S-(Hydroxymethyl)mycothiol dehydrogenase (1.1.1.306)
C12Y 101/01307	. . D-Xylose reductase (1.1.1.307)
C12Y 101/01308	. . Sulfopropanediol 3-dehydrogenase (1.1.1.308)
C12Y 101/01309	. . Phosphonoacetaldehyde reductase (NADH) (1.1.1.309)
C12Y 101/0131	. . (S)-Sulfolactate dehydrogenase (1.1.1.310)
C12Y 101/01311	. . (S)-1-Phenylethanol dehydrogenase (1.1.1.311)
C12Y 101/01312	. . 2-Hydroxy-4-carboxymuconate semialdehyde hemiacetal dehydrogenase (1.1.1.312)
C12Y 101/01313	. . Sulfoacetaldehyde reductase (1.1.1.313)
C12Y 101/01314	. . Germacrene A alcohol dehydrogenase (1.1.1.314)
C12Y 101/01315	. . 11-Cis-retinol dehydrogenase (1.1.1.315)

C12Y 101/01316	. . L-Galactose 1-dehydrogenase (1.1.1.316)
C12Y 101/01317	. . Perakine reductase (1.1.1.317)
C12Y 101/01318	. . Eugenol synthase (1.1.1.318)
C12Y 101/01319	. . Isoeugenol synthase (1.1.1.319)
C12Y 101/0132	. . Benzil reductase [(S)-benzoin forming] (1.1.1.320)
C12Y 101/01321	. . Benzil reductase [(R)-benzoin forming] (1.1.1.321)
C12Y 101/01322	. . (–)-Endo-fenchol dehydrogenase (1.1.1.322)
C12Y 101/01323	. . (+)-Thujan-3-ol dehydrogenase (1.1.1.323)
C12Y 101/01324	. . 8-Hydroxygeraniol dehydrogenase (1.1.1.324)
C12Y 101/01325	. . Sepiapterin reductase (L-threo-7,8-dihydrobiopterin forming) (1.1.1.325)
C12Y 101/01326	. . Zerumbone synthase (1.1.1.326)
C12Y 101/01327	. . 5-Exo-hydroxycamphor dehydrogenase (1.1.1.327)
C12Y 101/01328	. . Nicotine blue oxidoreductase (1.1.1.328)
C12Y 101/01329	. . 2-Deoxy-scylo-inosamine dehydrogenase (1.1.1.329)
C12Y 101/0133	. . Very-long-chain 3-oxoacyl-CoA reductase (1.1.1.330)
C12Y 101/01331	. . Secoisolaricresinol dehydrogenase (1.1.1.331)
C12Y 101/01332	. . Chanoclavine-I dehydrogenase (1.1.1.332)
C12Y 101/01333	. . Decaprenylphospho-beta-D-erythro-pentofuranosid-2-ulose 2-reductase (1.1.1.333)
C12Y 101/01334	. . Methylecgonone reductase (1.1.1.334)
C12Y 101/01335	. . UDP-N-acetyl-2-amino-2-deoxyglucuronate dehydrogenase (1.1.1.335)
C12Y 101/01336	. . UDP-N-acetyl-D-mannosamine dehydrogenase (1.1.1.336)
C12Y 101/01337	. . L-2-Hydroxycarboxylate dehydrogenase (NAD <sup>+</sup> ) (1.1.1.337)
C12Y 101/01338	. . (2R)-3-Sulfolactate dehydrogenase (NADP <sup>+</sup> ) (1.1.1.338)
C12Y 101/01339	. . dTDP-6-deoxy-L-talose 4-dehydrogenase (NAD <sup>+</sup> ) (1.1.1.339)
C12Y 101/0134	. . 1-Deoxy-11beta-hydroxypentalenate dehydrogenase (1.1.1.340)
C12Y 101/01341	. . CDP-abequose synthase (1.1.1.341)
C12Y 101/01342	. . CDP-paratose synthase (1.1.1.342)
C12Y 101/01817	. . Sulfoacetaldehyde reductase (1.1.1.B17)
C12Y 101/02	. with a cytochrome as acceptor (1.1.2)
C12Y 101/02002	. . Mannitol dehydrogenase (cytochrome) (1.1.2.2)
C12Y 101/02003	. . L-Lactate dehydrogenase (cytochrome) (1.1.2.3)
C12Y 101/02004	. . D-lactate dehydrogenase (cytochrome) (1.1.2.4)
C12Y 101/02005	. . D-Lactate dehydrogenase (cytochrome c-553)(1.1.2.5)
C12Y 101/02006	. . Polyvinyl alcohol dehydrogenase (cytochrome) (1.1.2.6)
C12Y 101/02007	. . Methanol dehydrogenase (cytochrome c)(1.1.2.7)
C12Y 101/02008	. . Alcohol dehydrogenase (cytochrome c)(1.1.2.8)
C12Y 101/03	. with a oxygen as acceptor (1.1.3)
C12Y 101/03003	. . Malate oxidase (1.1.3.3)
C12Y 101/03004	. . Glucose oxidase (1.1.3.4)

C12Y 101/03005	. . Hexose oxidase (1.1.3.5)
C12Y 101/03006	. . Cholesterol oxidase (1.1.3.6)
C12Y 101/03007	. . Aryl-alcohol oxidase (1.1.3.7)
C12Y 101/03008	. . L-Gulonolactone oxidase (1.1.3.8)
C12Y 101/03009	. . Galactose oxidase (1.1.3.9)
C12Y 101/0301	. . Pyranose oxidase (1.1.3.10)
C12Y 101/03011	. . L-sorbose oxidase (1.1.3.11)
C12Y 101/03012	. . Pyridoxine 4-oxidase (1.1.3.12)
C12Y 101/03013	. . Alcohol oxidase (1.1.3.13)
C12Y 101/03014	. . Catechol oxidase (dimerizing) (1.1.3.14)
C12Y 101/03015	. . (S)-2-Hydroxy-acid oxidase (1.1.3.15)
C12Y 101/03016	. . Ecdysone oxidase (1.1.3.16)
C12Y 101/03017	. . Choline oxidase (1.1.3.17)
C12Y 101/03018	. . Secondary-alcohol oxidase (1.1.3.18)
C12Y 101/03019	. . 4-Hydroxymandelate oxidase (1.1.3.19)
C12Y 101/0302	. . Long-chain-alcohol oxidase (1.1.3.20)
C12Y 101/03021	. . Glycerol-3-phosphate-oxidase (1.1.3.21)
C12Y 101/03023	. . Thiamine oxidase (1.1.3.23)
C12Y 101/03027	. . Hydroxyphytanate oxidase (1.1.3.27)
C12Y 101/03028	. . Nucleoside oxidase (1.1.3.28)
C12Y 101/03029	. . N-Acylhexosamine oxidase (1.1.3.29)
C12Y 101/0303	. . Polyvinyl-alcohol oxidase (1.1.3.30)
C12Y 101/03037	. . D-Arabinono-1,4-lactone oxidase (1.1.3.37)
C12Y 101/03038	. . Vanillyl-alcohol oxidase (1.1.3.38)
C12Y 101/03039	. . Nucleoside oxidase (H <sub>2</sub> O <sub>2</sub> -forming) (1.1.3.39)
C12Y 101/0304	. . D-Mannitol oxidase (1.1.3.40)
C12Y 101/03041	. . Alditol oxidase (1.1.3.41)
C12Y 101/03042	. . Prosolanapyrone-II oxidase (1.1.3.42)
C12Y 101/03043	. . Paromamine 6'-oxidase (1.1.3.43)
C12Y 101/03044	. . 6'''-Hydroxyneomycin C oxidase (1.1.3.44)
C12Y 101/04	. with a disulfide as acceptor (1.1.4)
C12Y 101/04001	. . Vitamin-K-epoxide reductase (warfarin-sensitive) (1.1.4.1)
C12Y 101/04002	. . Vitamin-K-epoxide reductase (warfarin-insensitive) (1.1.4.2)
C12Y 101/05	. with a quinone or similar compound as acceptor (1.1.5)
C12Y 101/05002	. . Quinoprotein glucose dehydrogenase (1.1.5.2)
C12Y 101/05003	. . Glycerol-3-phosphate dehydrogenase (1.1.5.3)
C12Y 101/05004	. . Malate dehydrogenase (quinone) (1.1.5.4)
C12Y 101/05005	. . Alcohol dehydrogenase (quinone) (1.1.5.5)
C12Y 101/05006	. . Formate dehydrogenase-N (1.1.5.6)
C12Y 101/05007	. . Cyclic alcohol dehydrogenase (quinone) (1.1.5.7)

C12Y 101/05008	. . Quinate dehydrogenase (quinone) (1.1.5.8)
C12Y 101/09	. with a copper protein as acceptor (1.1.9)
C12Y 101/09001	. . Alcohol dehydrogenase (azurin) (1.1.9.1)
C12Y 101/98	. with other, known, acceptors (1.1.98)
C12Y 101/98002	. . Glucose-6-phosphate dehydrogenase (coenzyme-F420) (1.1.98.2)
C12Y 101/98003	. . Decaprenylphospho-beta-D-ribofuranose 2-oxidase (1.1.98.3)
C12Y 101/99	. with other acceptors (1.1.99)
C12Y 101/99001	. . Choline dehydrogenase (1.1.99.1)
C12Y 101/99002	. . 2-Hydroxyglutarate dehydrogenase (1.1.99.2)
C12Y 101/99003	. . Gluconate 2-dehydrogenase (acceptor) (1.1.99.3)
C12Y 101/99004	. . Dehydrogluconate dehydrogenase (1.1.99.4)
C12Y 101/99006	. . D-2-Hydroxy-acid dehydrogenase (1.1.99.6)
C12Y 101/99007	. . Lactate--malate transhydrogenase (1.1.99.7)
C12Y 101/99008	. . Alcohol dehydrogenase (acceptor) (1.1.99.8) ( <a href="#">C12Y 101/02007</a> , <a href="#">C12Y 101/02008</a> take precedence)
C12Y 101/99009	. . Pyridoxine 5-dehydrogenase (1.1.99.9)
C12Y 101/9901	. . Glucose dehydrogenase (acceptor) (1.1.99.10)
C12Y 101/99011	. . Fructose 5-dehydrogenase (1.1.99.11)
C12Y 101/99012	. . Sorbose dehydrogenase (1.1.99.12)
C12Y 101/99013	. . Glucoside 3-dehydrogenase (1.1.99.13)
C12Y 101/99014	. . Glycolate dehydrogenase (1.1.99.14)
C12Y 101/99018	. . Cellobiose oxidase (1.1.99.18)
C12Y 101/9902	. . Alkan-1-ol dehydrogenase (acceptor) (1.1.99.20)
C12Y 101/99021	. . D-Sorbitol dehydrogenase (acceptor) (1.1.99.21)
C12Y 101/99022	. . Glycerol dehydrogenase (acceptor) (1.1.99.22)
C12Y 101/99024	. . Hydroxyacid-oxoacid transhydrogenase (1.1.99.24)
C12Y 101/99026	. . 3-Hydroxycyclohexanone dehydrogenase (1.1.99.26)
C12Y 101/99027	. . (R)-Pantolactone dehydrogenase (flavin) (1.1.99.27)
C12Y 101/99028	. . Glucose-fructose oxidoreductase (1.1.99.28)
C12Y 101/99029	. . Pyranose dehydrogenase (acceptor) (1.1.99.29)
C12Y 101/9903	. . 2-Oxo-acid reductase (1.1.99.30)
C12Y 101/99031	. . (S)-Mandelate dehydrogenase (1.1.99.31)
C12Y 101/99032	. . L-Sorbose 1-dehydrogenase (1.1.99.32)
C12Y 101/99033	. . Formate dehydrogenase (acceptor) (1.1.99.33)
C12Y 101/99035	. . Soluble quinoprotein glucose dehydrogenase (1.1.99.35)
C12Y 101/99036	. . NDMA-dependent alcohol dehydrogenase (1.1.99.36)
C12Y 101/99037	. . NDMA-dependent methanol dehydrogenase (1.1.99.37)
C12Y 101/99038	. . 2-Deoxy-scylo-inosamine dehydrogenase (SAM-dependent) (1.1.99.38)
<b>C12Y 102/00</b>	<b>Oxidoreductases acting on the aldehyde or oxo group of donors (1.2)</b>
C12Y 102/01	. with NAD+ or NADP+ as acceptor (1.2.1)

<a href="#">C12Y 102/01001</a>	. . Formaldehyde dehydrogenase (glutathione) (1.2.1.1) ( <a href="#">C12Y 101/01284</a> , <a href="#">C12Y 404/01022</a> take precedence)
<a href="#">C12Y 102/01002</a>	. . Formate dehydrogenase (1.2.1.2)
<a href="#">C12Y 102/01003</a>	. . Aldehyde dehydrogenase (NAD+) (1.2.1.3)
<a href="#">C12Y 102/01004</a>	. . Aldehyde dehydrogenase (NADP+) (1.2.1.4)
<a href="#">C12Y 102/01005</a>	. . Aldehyde dehydrogenase [NAD(P)+] (1.2.1.5)
<a href="#">C12Y 102/01007</a>	. . Benzaldehyde dehydrogenase (NADP+) (1.2.1.7)
<a href="#">C12Y 102/01008</a>	. . Betaine-aldehyde dehydrogenase (NADH) (1.2.1.8)
<a href="#">C12Y 102/01009</a>	. . Glyceraldehyde-3-phosphate dehydrogenase (NADP+) (1.2.1.9)
<a href="#">C12Y 102/0101</a>	. . Acetaldehyde dehydrogenase (acetylating) (1.2.1.10)
<a href="#">C12Y 102/01011</a>	. . Aspartate-semialdehyde dehydrogenase (1.2.1.11)
<a href="#">C12Y 102/01012</a>	. . Glyceraldehyde-3-phosphate dehydrogenase (phosphorylating) (1.2.1.12)
<a href="#">C12Y 102/01013</a>	. . Glyceraldehyde-3-phosphate dehydrogenase (NADP+) (phosphorylating) (1.2.1.13)
<a href="#">C12Y 102/01015</a>	. . Malonate-semialdehyde dehydrogenase (1.2.1.15)
<a href="#">C12Y 102/01016</a>	. . Succinate-semialdehyde dehydrogenase [NAD(P)+] (1.2.1.16)
<a href="#">C12Y 102/01017</a>	. . Glyoxylate dehydrogenase (acylating) (1.2.1.17)
<a href="#">C12Y 102/01018</a>	. . Malonate-semialdehyde dehydrogenase (acetylating) (1.2.1.18)
<a href="#">C12Y 102/01019</a>	. . Aminobutyraldehyde dehydrogenase (1.2.1.19)
<a href="#">C12Y 102/0102</a>	. . Glutarate-semialdehyde dehydrogenase (1.2.1.20)
<a href="#">C12Y 102/01021</a>	. . Glycolaldehyde dehydrogenase (1.2.1.21)
<a href="#">C12Y 102/01022</a>	. . Lactaldehyde dehydrogenase (1.2.1.22)
<a href="#">C12Y 102/01023</a>	. . 2-Oxoaldehyde dehydrogenase (NAD+) (1.2.1.23)
<a href="#">C12Y 102/01024</a>	. . Succinate-semialdehyde dehydrogenase (NAD+) (1.2.1.24)
<a href="#">C12Y 102/01025</a>	. . 2-Oxoisovalerate dehydrogenase (acylating) (1.2.1.25)
<a href="#">C12Y 102/01026</a>	. . 2,5-Dioxovalerate dehydrogenase (1.2.1.26)
<a href="#">C12Y 102/01027</a>	. . Methylmalonate-semialdehyde dehydrogenase (acylating) (1.2.1.27)
<a href="#">C12Y 102/01028</a>	. . Benzaldehyde dehydrogenase (NAD+) (1.2.1.28)
<a href="#">C12Y 102/01029</a>	. . Aryl-aldehyde dehydrogenase (1.2.1.29)
<a href="#">C12Y 102/0103</a>	. . Aryl-aldehyde dehydrogenase (NADP+) (1.2.1.30)
<a href="#">C12Y 102/01031</a>	. . L-Aminoadipate-semialdehyde dehydrogenase (1.2.1.31), i.e. alpha-aminoadipate reductase
<a href="#">C12Y 102/01032</a>	. . Aminomuconate-semialdehyde dehydrogenase (1.2.1.32)
<a href="#">C12Y 102/01033</a>	. . (R)-Dehydropantoate dehydrogenase (1.2.1.33)
<a href="#">C12Y 102/01036</a>	. . Retinal dehydrogenase (1.2.1.36)
<a href="#">C12Y 102/01038</a>	. . N-Acetyl-gamma-glutamyl-phosphate reductase (1.2.1.38)
<a href="#">C12Y 102/01039</a>	. . Phenylacetaldehyde dehydrogenase (1.2.1.39)
<a href="#">C12Y 102/01041</a>	. . Glutamate-5-semialdehyde dehydrogenase (1.2.1.41)
<a href="#">C12Y 102/01042</a>	. . Hexadecanal dehydrogenase (acylating) (1.2.1.42), i.e. fatty acyl-CoA reductase
<a href="#">C12Y 102/01043</a>	. . Formate dehydrogenase (NADP+) (1.2.1.43)
<a href="#">C12Y 102/01044</a>	. . Cinnamoyl-CoA reductase (1.2.1.44)

C12Y 102/01046	. . Formaldehyde dehydrogenase (1.2.1.46)
C12Y 102/01047	. . 4-Trimethylammoniobutyraldehyde dehydrogenase (1.2.1.47)
C12Y 102/01048	. . Long-chain-aldehyde dehydrogenase (1.2.1.48)
C12Y 102/01049	. . 2-Oxoaldehyde dehydrogenase (NADP+) (1.2.1.49)
C12Y 102/0105	. . Long-chain-fatty-acyl-CoA reductase (1.2.1.50)
C12Y 102/01051	. . Pyruvate dehydrogenase (NADP+) (1.2.1.51)
C12Y 102/01052	. . Oxoglutarate dehydrogenase (NADP+) (1.2.1.52)
C12Y 102/01053	. . 4-Hydroxyphenylacetaldehyde dehydrogenase (1.2.1.53)
C12Y 102/01054	. . Gamma-guanidinobutyraldehyde dehydrogenase (1.2.1.54)
C12Y 102/01057	. . Butanal dehydrogenase (1.2.1.57)
C12Y 102/01058	. . Phenylglyoxylate dehydrogenase (acylating) (1.2.1.58)
C12Y 102/01059	. . Glyceraldehyde-3-phosphate dehydrogenase (NAD(P)+)(phosphorylating) (1.2.1.59)
C12Y 102/0106	. . 5-Carboxymethyl-2-hydroxymuconic-semialdehyde dehydrogenase (1.2.1.60)
C12Y 102/01061	. . 4-Hydroxymuconic-semialdehyde dehydrogenase (1.2.1.61)
C12Y 102/01062	. . 4-Formylbenzenesulfonate dehydrogenase (1.2.1.62)
C12Y 102/01063	. . 6-Oxohexanoate dehydrogenase (1.2.1.63)
C12Y 102/01064	. . 4-Hydroxybenzaldehyde dehydrogenase (1.2.1.64)
C12Y 102/01065	. . Salicylaldehyde dehydrogenase (1.2.1.65)
C12Y 102/01067	. . Vanillin dehydrogenase (1.2.1.67)
C12Y 102/01068	. . Coniferyl-aldehyde dehydrogenase (1.2.1.68)
C12Y 102/01069	. . Fluoroacetaldehyde dehydrogenase (1.2.1.69)
C12Y 102/0107	. . Glutamyl-tRNA reductase (1.2.1.70)
C12Y 102/01071	. . Succinylglutamate-semialdehyde dehydrogenase (1.2.1.71)
C12Y 102/01072	. . Erythrose-4-phosphate dehydrogenase (1.2.1.72)
C12Y 102/01073	. . Sulfoacetaldehyde dehydrogenase (1.2.1.73)
C12Y 102/01074	. . Abieta-7,13-dien-18-al dehydrogenase (1.2.1.74)
C12Y 102/01075	. . Malonyl CoA reductase (malonate semialdehyde-forming)(1.2.1.75)
C12Y 102/01076	. . Succinate-semialdehyde dehydrogenase (acetylating) (1.2.1.76)
C12Y 102/01077	. . 3,4-Dehydroadipyl-CoA semialdehyde dehydrogenase (NADP+) (1.2.1.77)
C12Y 102/01078	. . 2-Formylbenzoate dehydrogenase (1.2.1.78)
C12Y 102/01079	. . Succinate-semialdehyde dehydrogenase (NADP+) (1.2.1.79)
C12Y 102/0108	. . Long-chain acyl-[acyl-carrier-protein] reductase (1.2.1.80)
C12Y 102/01081	. . Sulfoacetaldehyde dehydrogenase (acylating) (1.2.1.81)
C12Y 102/01082	. . Beta-apo-4'-carotenal oxygenase (1.2.1.82)
C12Y 102/01083	. . 3-Succinoylsemialdehyde-pyridine dehydrogenase (1.2.1.83)
C12Y 102/01084	. . Alcohol-forming fatty acyl-CoA reductase (1.2.1.84)
C12Y 102/01085	. . 2-Hydroxymuconate-6-semialdehyde dehydrogenase (1.2.1.85)
C12Y 102/01086	. . Geranial dehydrogenase (1.2.1.86)
C12Y 102/02	. with a cytochrome as acceptor (1.2.2)



C12Y 102/02001	. . Formate dehydrogenase (cytochrome) (1.2.2.1)
C12Y 102/02003	. . Formate dehydrogenase (cytochrome c-553)(1.2.2.3)
C12Y 102/02004	. . Carbon-monoxide dehydrogenase (cytochrome b-561)(1.2.2.4)
C12Y 102/03	. with oxygen as acceptor (1.2.3)
C12Y 102/03001	. . Aldehyde oxidase (1.2.3.1), i.e. retinal oxidase
C12Y 102/03003	. . Pyruvate oxidase (1.2.3.3)
C12Y 102/03004	. . Oxalate oxidase (1.2.3.4)
C12Y 102/03005	. . Glyoxylate oxidase (1.2.3.5)
C12Y 102/03006	. . Pyruvate oxidase (CoA-acetylating) (1.2.3.6)
C12Y 102/03007	. . Indole-3-acetaldehyde oxidase (1.2.3.7)
C12Y 102/03008	. . Pyridoxal oxidase (1.2.3.8)
C12Y 102/03009	. . Aryl-aldehyde oxidase (1.2.3.9)
C12Y 102/03013	. . 4-Hydroxyphenylpyruvate oxidase (1.2.3.13)
C12Y 102/03014	. . Absciscic-aldehyde oxidase (1.2.3.14)
C12Y 102/04	. with a disulfide as acceptor (1.2.4)
C12Y 102/04001	. . Pyruvate dehydrogenase (acetyl-transferring) (1.2.4.1)
C12Y 102/04002	. . Oxoglutarate dehydrogenase (succinyl-transferring) (1.2.4.2), i.e. alpha-ketoglutarat dehydrogenase
C12Y 102/04004	. . 3-Methyl-2-oxobutanoate dehydrogenase (2-methylpropanoyl-transferring) (1.2.4.4), i.e. branched-chain-alpha-ketoacid dehydrogenase
C12Y 102/05	. with a quinone or similar compound as acceptor (1.2.5)
C12Y 102/05001	. . Pyruvate dehydrogenase (quinone) (1.2.5.1)
C12Y 102/07	. with an iron-sulfur protein as acceptor (1.2.7)
C12Y 102/07001	. . Pyruvate synthase (1.2.7.1), i.e. pyruvate ferredoxin oxidoreductase
C12Y 102/07002	. . 2-Oxobutyrate synthase (1.2.7.2)
C12Y 102/07003	. . 2-Oxoglutarate synthase (1.2.7.3)
C12Y 102/07004	. . Carbon-monoxide dehydrogenase (ferredoxin) (1.2.7.4)
C12Y 102/07005	. . Aldehyde ferredoxin oxidoreductase (1.2.7.5)
C12Y 102/07006	. . Glyceraldehyde-3-phosphate dehydrogenase (ferredoxin) (1.2.7.6)
C12Y 102/07007	. . 3-Methyl-2-oxobutanoate dehydrogenase (ferredoxin) (1.2.7.7)
C12Y 102/07008	. . Indolepyruvate ferredoxin oxidoreductase (1.2.7.8)
C12Y 102/0701	. . Oxalate oxidoreductase (1.2.7.10)
C12Y 102/99	. with other acceptors (1.2.99)
C12Y 102/99002	. . Carbon-monoxide dehydrogenase (acceptor) (1.2.99.2)
C12Y 102/99003	. . Aldehyde dehydrogenase (pyrroloquinoline-quinone) (1.2.99.3)
C12Y 102/99004	. . Formaldehyde dismutase (1.2.99.4)
C12Y 102/99005	. . Formylmethanofuran dehydrogenase (1.2.99.5)
C12Y 102/99006	. . Carboxylate reductase (1.2.99.6)
C12Y 102/99007	. . Aldehyde dehydrogenase (FAD-independent) (1.2.99.7)

**C12Y 103/00      Oxidoreductases acting on the CH-CH group of donors (1.3)**

C12Y 103/01	. with NAD <sup>+</sup> or NADP <sup>+</sup> as acceptor (1.3.1)
C12Y 103/01001	. . Dihydropyrimidine dehydrogenase (NAD <sup>+</sup> ) (1.3.1.1)
C12Y 103/01002	. . Dihydropyrimidine dehydrogenase (NADP <sup>+</sup> ) (1.3.1.2)
C12Y 103/01003	. . DELTA4-3-oxosteroid 5-beta-reductase (1.3.1.3)
C12Y 103/01005	. . Cucurbitacin DELTA23-reductase (1.3.1.5)
C12Y 103/01006	. . Fumarate reductase (NADH) (1.3.1.6)
C12Y 103/01007	. . Meso-tartrate dehydrogenase (1.3.1.7)
C12Y 103/01008	. . Acyl-CoA dehydrogenase (NADP <sup>+</sup> ) (1.3.1.8)
C12Y 103/01009	. . Enoyl-[acyl-carrier-protein] reductase (NADH) (1.3.1.9)
C12Y 103/0101	. . Enoyl-[acyl-carrier-protein] reductase (NADPH, B-specific)(1.3.1.10)
C12Y 103/01011	. . 2-Coumarate reductase (1.3.1.11)
C12Y 103/01012	. . Prephenate dehydrogenase (1.3.1.12)
C12Y 103/01013	. . Prephenate dehydrogenase (NADP <sup>+</sup> ) (1.3.1.13)
C12Y 103/01014	. . Dihydroorotate dehydrogenase (NAD <sup>+</sup> ) (1.3.1.14)
C12Y 103/01015	. . Dihydroorotate dehydrogenase (NADP <sup>+</sup> ) (1.3.1.15)
C12Y 103/01016	. . Beta-nitroacrylate reductase (1.3.1.16)
C12Y 103/01017	. . 3-Methyleneoxindole reductase (1.3.1.17)
C12Y 103/01018	. . Kynurenate-7,8-dihydrodiol dehydrogenase (1.3.1.18)
C12Y 103/01019	. . Cis-1,2-dihydrobenzene-1,2-diol dehydrogenase (1.3.1.19)
C12Y 103/0102	. . Trans-1,2-dihydrobenzene-1,2-diol dehydrogenase (1.3.1.20)
C12Y 103/01021	. . 7-Dehydrocholesterol reductase (1.3.1.21)
C12Y 103/01022	. . 3-Oxo-5alpha-steroid 4-dehydrogenase (NADP <sup>+</sup> ) (1.3.1.22), i.e. cortisone alpha-reductase
C12Y 103/01024	. . Biliverdin reductase (1.3.1.24)
C12Y 103/01025	. . 1,6-Dihydroxycyclohexa-2,4-diene-1-carboxylate dehydrogenase (1.3.1.25)
C12Y 103/01026	. . Dihydrodipicolinate reductase (1.3.1.26)
C12Y 103/01027	. . 2-Hexadecenal reductase (1.3.1.27)
C12Y 103/01028	. . 2,3-Dihydro-2,3-dihydroxybenzoate dehydrogenase (1.3.1.28)
C12Y 103/01029	. . Cis-1,2-dihydro-1,2-dihydroxynaphthalene dehydrogenase (1.3.1.29)
C12Y 103/01031	. . 2-Enoate reductase (1.3.1.31)
C12Y 103/01032	. . Maleylacetate reductase (1.3.1.32)
C12Y 103/01033	. . Protochlorophyllide reductase (1.3.1.33)
C12Y 103/01034	. . 2,4-dienoyl-CoA reductase (NADPH) (1.3.1.34)
C12Y 103/01035	. . Phosphatidylcholine desaturase (1.3.1.35)
C12Y 103/01036	. . Geissoschizine dehydrogenase (1.3.1.36)
C12Y 103/01037	. . Cis-2-enoyl-CoA reductase (NADPH) (1.3.1.37)
C12Y 103/01038	. . Trans-2-enoyl-CoA reductase (NADPH) (1.3.1.38)
C12Y 103/01039	. . Enoyl-[acyl-carrier-protein] reductase (NADPH, A-specific)(1.3.1.39)
C12Y 103/0104	. . 2-Hydroxy-6-oxo-6-phenylhexa-2,4-dienoate reductase (1.3.1.40)
C12Y 103/01041	. . Xanthommatin reductase (1.3.1.41)

C12Y 103/01042	. . 12-Oxophytodienoate reductase (1.3.1.42), i.e. morphinone-reductase
C12Y 103/01043	. . Arogenate dehydrogenase (1.3.1.43)
C12Y 103/01044	. . Trans-2-enoyl-CoA reductase (NAD+) (1.3.1.44)
C12Y 103/01045	. . 2'-Hydroxyisoflavone reductase (1.3.1.45)
C12Y 103/01046	. . Biochanin-A reductase (1.3.1.46)
C12Y 103/01047	. . Alpha-santonin 1,2-reductase (1.3.1.47)
C12Y 103/01048	. . 15-Oxoprostaglandin 13-oxidase (1.3.1.48)
C12Y 103/01049	. . Cis-3,4-dihydrophenanthrene-3,4-diol dehydrogenase (1.3.1.49)
C12Y 103/01051	. . 2'-Hydroxydaidzein reductase (1.3.1.51)
C12Y 103/01053	. . (3S,4R)-3,4-dihydroxycyclohexa-1,5-diene-1,4-dicarboxylate dehydrogenase (1.3.1.53)
C12Y 103/01054	. . Precorrin-6A reductase (1.3.1.54)
C12Y 103/01056	. . Cis-2,3-dihydrobiphenyl-2,3-diol dehydrogenase (1.3.1.56)
C12Y 103/01057	. . Phloroglucinol reductase (1.3.1.57)
C12Y 103/01058	. . 2,3-Dihydroxy-2,3-dihydro-p-cumate dehydrogenase (1.3.1.58)
C12Y 103/0106	. . Dibenzothiophene dihydrodiol dehydrogenase (1.3.1.60)
C12Y 103/01062	. . Pimeloyl-CoA dehydrogenase (1.3.1.62)
C12Y 103/01063	. . 2,4-Dichlorobenzoyl-CoA reductase (1.3.1.63)
C12Y 103/01064	. . Phthalate 4,5-cis-dihydrodiol dehydrogenase (1.3.1.64)
C12Y 103/01065	. . 5,6-Dihydroxy-3-methyl-2-oxo-1,2,5,6-tetrahydroquinoline dehydrogenase (1.3.1.65)
C12Y 103/01066	. . Cis-dihydroethylcatechol dehydrogenase (1.3.1.66)
C12Y 103/01067	. . Cis-1,2-dihydroxy-4-methylcyclohexa-3,5-diene-1-carboxylate dehydrogenase (1.3.1.67)
C12Y 103/01068	. . 1,2-Dihydroxy-6-methylcyclohexa-3,5-dienecarboxylate dehydrogenase (1.3.1.68)
C12Y 103/01069	. . Zeatin reductase (1.3.1.69)
C12Y 103/0107	. . DELTA14-sterol reductase (1.3.1.70)
C12Y 103/01071	. . DELTA24 (24(1))-sterol reductase (1.3.1.71)
C12Y 103/01072	. . DELTA24-sterol reductase (1.3.1.72)
C12Y 103/01073	. . 1,2-Dihydrovomilenine reductase (1.3.1.73)
C12Y 103/01074	. . 2-Alkenal reductase (1.3.1.74)
C12Y 103/01075	. . Divinyl chlorophyllide a 8-vinyl-reductase (1.3.1.75)
C12Y 103/01076	. . Precorrin-2 dehydrogenase (1.3.1.76)
C12Y 103/01077	. . Anthocyanidin reductase (1.3.1.77)
C12Y 103/01078	. . Arogenate dehydrogenase (NADP+) (1.3.1.78)
C12Y 103/01079	. . Arogenate dehydrogenase (NAD(P)+)(1.3.1.79)
C12Y 103/0108	. . Red chlorophyll catabolite reductase (1.3.1.80)
C12Y 103/01081	. . (+)-Pulegone reductase (1.3.1.81)
C12Y 103/01082	. . (-)-Isopiperitenone reductase (1.3.1.82)
C12Y 103/01083	. . Geranylgeranyl diphosphate reductase (1.3.1.83)
C12Y 103/01084	. . Acrylyl-CoA reductase (NADPH) (1.3.1.84)

C12Y 103/01085	. . Crotonyl-CoA carboxylase/reductase (1.3.1.85)
C12Y 103/01086	. . Crotonyl-CoA reductase (1.3.1.86)
C12Y 103/01087	. . 3-(Cis-5,6-dihydroxycyclohexa-1,3-dien-1-yl)propanoate dehydrogenase (1.3.1.87)
C12Y 103/01088	. . tRNA-dihydrouridine16/17 synthase (NAD(P)+)(1.3.1.88)
C12Y 103/01089	. . tRNA-dihydrouridine47 synthase (NAD(P)+)(1.3.1.89)
C12Y 103/0109	. . tRNA-dihydrouridine20a/20b synthase (NAD(P)+)(1.3.1.90)
C12Y 103/01091	. . tRNA-dihydrouridine20 synthase (NAD(P)+)(1.3.1.91)
C12Y 103/01092	. . Artemisinic aldehyde DELTA11(13)-reductase (1.3.1.92)
C12Y 103/01093	. . Very-long-chain enoyl-CoA reductase (1.3.1.93)
C12Y 103/01094	. . Polyprenol reductase (1.3.1.94)
C12Y 103/01095	. . Acrylyl-CoA reductase (NADH) (1.3.1.95)
C12Y 103/01096	. . Botryococcus squalene synthase (1.3.1.96)
C12Y 103/01097	. . Botryococcene synthase (1.3.1.97)
C12Y 103/02	. with a cytochrome as acceptor (1.3.2)
C12Y 103/02003	. . L-Galactonolactone dehydrogenase (1.3.2.3)
C12Y 103/03	. with oxygen as acceptor (1.3.3)
C12Y 103/03003	. . Coproporphyrinogen oxidase (1.3.3.3)
C12Y 103/03004	. . Protoporphyrinogen oxidase (1.3.3.4)
C12Y 103/03005	. . Bilirubin oxidase (1.3.3.5)
C12Y 103/03006	. . Acyl-CoA oxidase (1.3.3.6)
C12Y 103/03007	. . Dihydrouracil oxidase (1.3.3.7)
C12Y 103/03008	. . Tetrahydroberberine oxidase (1.3.3.8)
C12Y 103/03009	. . Secologanin synthase (1.3.3.9)
C12Y 103/0301	. . Tryptophan alpha,beta-oxidase (1.3.3.10)
C12Y 103/03011	. . Pyrroloquinoline-quinone synthase (1.3.3.11)
C12Y 103/03012	. . L-Galactonolactone oxidase (1.3.3.12)
C12Y 103/05	. with a quinone or related compound as acceptor (1.3.5)
C12Y 103/05001	. . Succinate dehydrogenase (ubiquinone) (1.3.5.1)
C12Y 103/05002	. . Dihydroorotate dehydrogenase (1.3.5.2)
C12Y 103/05003	. . Protoporphyrinogen IX dehydrogenase (menaquinone) (1.3.5.3)
C12Y 103/05004	. . Fumarate reductase (menaquinone) (1.3.5.4)
C12Y 103/05005	. . 15-Cis-phytoene desaturase (1.3.5.5)
C12Y 103/05006	. . 9,9'-Di-cis-zeta-carotene desaturase (1.3.5.6)
C12Y 103/07	. with an iron-sulfur protein as acceptor (1.3.7)
C12Y 103/07001	. . 6-Hydroxynicotinate reductase (1.3.7.1)
C12Y 103/07002	. . 15,16-Dihydrobiliverdin:ferredoxin oxidoreductase (1.3.7.2)
C12Y 103/07003	. . Phycoerythrobilin:ferredoxin oxidoreductase (1.3.7.3)
C12Y 103/07004	. . Phytychromobilin:ferredoxin oxidoreductase (1.3.7.4)
C12Y 103/07005	. . Phycocyanobilin:ferredoxin oxidoreductase (1.3.7.5)
C12Y 103/07006	. . Phycoerythrobilin synthase (1.3.7.6)

C12Y 103/07007	. . Ferredoxin:protochlorophyllide reductase (ATP-dependent) (1.3.7.7)
C12Y 103/07008	. . Benzoyl-CoA reductase (1.3.7.8)
C12Y 103/07009	. . 4-Hydroxybenzoyl-CoA reductase (1.3.7.9)
C12Y 103/0701	. . Pentalenolactone synthase (1.3.7.10)
C12Y 103/08	. with flavin as acceptor (1.3.8)
C12Y 103/08001	. . Butyryl-CoA dehydrogenase (1.3.8.1), i.e. short chain acyl-CoA dehydrogenase
C12Y 103/08002	. . 4,4'-Diapophytoene desaturase (1.3.8.2)
C12Y 103/08003	. . (R)-Benzylsuccinyl-CoA dehydrogenase (1.3.8.3)
C12Y 103/08004	. . Isovaleryl-CoA dehydrogenase (1.3.8.4)
C12Y 103/08005	. . 2-Methyl-branched-chain-enoyl-CoA reductase (1.3.8.5)
C12Y 103/08006	. . Glutaryl-CoA dehydrogenase (1.3.8.6)
C12Y 103/08007	. . Medium-chain acyl-CoA dehydrogenase (1.3.8.7)
C12Y 103/08008	. . Long-chain acyl-CoA dehydrogenase (1.3.8.8)
C12Y 103/08009	. . Very-long-chain acyl-CoA dehydrogenase (1.3.8.9)
C12Y 103/98	. with other, known, acceptors (1.3.98)
C12Y 103/98001	. . Dihydroorotate oxidase (fumarate) (1.3.98.1)
C12Y 103/99	. with other acceptors (1.3.99)
C12Y 103/99001	. . Succinate dehydrogenase (1.3.99.1)
C12Y 103/99002	. . Butyryl-CoA dehydrogenase (1.3.99.2), i.e. short chain acyl-CoA dehydrogenase
C12Y 103/99003	. . Acyl-CoA dehydrogenase (1.3.99.3) ( <a href="#">C12Y 103/08007</a> , <a href="#">C12Y 103/08008</a> and <a href="#">C12Y 103/08009</a> take precedence)
C12Y 103/99004	. . 3-Oxosteroid 1-dehydrogenase (1.3.99.4)
C12Y 103/99005	. . 3-Oxo-5alpha-steroid 4-dehydrogenase (acceptor) (1.3.99.5), i.e. steroid-5alpha-reductase
C12Y 103/99006	. . 3-Oxo-5-beta-steroid 4-dehydrogenase (1.3.99.6)
C12Y 103/99008	. . 2-Furoyl-CoA dehydrogenase (1.3.99.8)
C12Y 103/99012	. . 2-Methylacyl-CoA dehydrogenase (1.3.99.12)
C12Y 103/99014	. . Cyclohexanone dehydrogenase (1.3.99.14)
C12Y 103/99016	. . Isoquinoline 1-oxidoreductase (1.3.99.16)
C12Y 103/99017	. . Quinoline 2-oxidoreductase (1.3.99.17)
C12Y 103/99018	. . Quinaldate 4-oxidoreductase (1.3.99.18)
C12Y 103/99019	. . Quinoline-4-carboxylate 2-oxidoreductase (1.3.99.19)
C12Y 103/99022	. . Coproporphyrinogen dehydrogenase (1.3.99.22)
C12Y 103/99023	. . All-trans-retinol 13,14-reductase (1.3.99.23)
C12Y 103/99024	. . 2-Amino-4-deoxychorismate dehydrogenase (1.3.99.24)
C12Y 103/99025	. . Carvone reductase (1.3.99.25)
C12Y 103/99026	. . All-trans-zeta-carotene desaturase (1.3.99.26)
C12Y 103/99027	. . 1-Hydroxycarotenoid 3,4-desaturase (1.3.99.27)
C12Y 103/99028	. . Phytoene desaturase (neurosporene-forming) (1.3.99.28)
C12Y 103/99029	. . Phytoene desaturase (zeta-carotene-forming) (1.3.99.29)

- C12Y 103/9903 . . Phytoene desaturase (3,4-didehydrolycopene-forming) (1.3.99.30)
- C12Y 103/99031 . . Phytoene desaturase (lycopene-forming) (1.3.99.31)
- C12Y 103/99032 . . Glutaryl-CoA dehydrogenase (non-decarboxylating) (1.3.99.32)

**C12Y 104/00****Oxidoreductases acting on the CH-NH<sub>2</sub> group of donors (1.4)**

- C12Y 104/01 . with NAD<sup>+</sup> or NADP<sup>+</sup> as acceptor (1.4.1)
  - C12Y 104/01001 . . Alanine dehydrogenase (1.4.1.1)
  - C12Y 104/01002 . . Glutamate dehydrogenase (1.4.1.2)
  - C12Y 104/01003 . . Glutamate dehydrogenase (NAD(P)<sup>+</sup>)(1.4.1.3)
  - C12Y 104/01004 . . Glutamate dehydrogenase (NADP<sup>+</sup>) (1.4.1.4)
  - C12Y 104/01005 . . L-Amino-acid dehydrogenase (1.4.1.5)
  - C12Y 104/01007 . . Serine 2-dehydrogenase (1.4.1.7)
  - C12Y 104/01008 . . Valine dehydrogenase (NADP<sup>+</sup>) (1.4.1.8)
  - C12Y 104/01009 . . Leucine dehydrogenase (1.4.1.9)
  - C12Y 104/0101 . . Glycine dehydrogenase (1.4.1.10)
  - C12Y 104/01011 . . L-Erythro-3,5-diaminohexanoate dehydrogenase (1.4.1.11)
  - C12Y 104/01012 . . 2,4-Diaminopentanoate dehydrogenase (1.4.1.12)
  - C12Y 104/01013 . . Glutamate synthase (NADPH) (1.4.1.13)
  - C12Y 104/01014 . . Glutamate synthase (NADH) (1.4.1.14)
  - C12Y 104/01015 . . Lysine dehydrogenase (1.4.1.15)
  - C12Y 104/01016 . . Diaminopimelate dehydrogenase (1.4.1.16)
  - C12Y 104/01017 . . N-Methylalanine dehydrogenase (1.4.1.17)
  - C12Y 104/01018 . . Lysine 6-dehydrogenase (1.4.1.18)
  - C12Y 104/01019 . . Tryptophan dehydrogenase (1.4.1.19)
  - C12Y 104/0102 . . Phenylalanine dehydrogenase (1.4.1.20)
  - C12Y 104/01021 . . Aspartate dehydrogenase (1.4.1.21)
  - C12Y 104/01023 . . Valine dehydrogenase (NAD<sup>+</sup>) (1.4.1.23)
  - C12Y 104/01024 . . 3-Dehydroquinate synthase II (1.4.1.24)
- C12Y 104/02 . with a cytochrome as acceptor (1.4.2)
  - C12Y 104/02001 . . Glycine dehydrogenase (cytochrome) (1.4.2.1)
- C12Y 104/03 . with oxygen as acceptor (1.4.3)
  - C12Y 104/03001 . . D-Aspartate oxidase (1.4.3.1)
  - C12Y 104/03002 . . L-Amino-acid oxidase (1.4.3.2)
  - C12Y 104/03003 . . D-Amino-acid oxidase (1.4.3.3)
  - C12Y 104/03004 . . Monoamine oxidase (1.4.3.4)
  - C12Y 104/03005 . . Pyridoxal 5'-phosphate synthase (1.4.3.5), i.e. pyridoxamine 5-phosphate oxidase
  - C12Y 104/03006 . . Amine oxidase (copper-containing)(1.4.3.6) ([C12Y 104/03021](#) or [C12Y 104/03022](#) takes precedence)
  - C12Y 104/03007 . . D-Glutamate oxidase (1.4.3.7)
  - C12Y 104/03008 . . Ethanolamine oxidase (1.4.3.8)
  - C12Y 104/0301 . . Putrescine oxidase (1.4.3.10)



C12Y 104/03011	. . L-Glutamate oxidase (1.4.3.11)
C12Y 104/03012	. . Cyclohexylamine oxidase (1.4.3.12)
C12Y 104/03013	. . Protein-lysine 6-oxidase (1.4.3.13), i.e. lysyl-oxidase
C12Y 104/03014	. . L-Lysine oxidase (1.4.3.14)
C12Y 104/03015	. . D-Glutamate(D-aspartate) oxidase (1.4.3.15)
C12Y 104/03016	. . L-Aspartate oxidase (1.4.3.16)
C12Y 104/03019	. . Glycine oxidase (1.4.3.19)
C12Y 104/0302	. . L-Lysine 6-oxidase (1.4.3.20)
C12Y 104/03021	. . Primary-amine oxidase (1.4.3.21), i.e. VAP-1
C12Y 104/03022	. . Diamine oxidase (1.4.3.22)
C12Y 104/03023	. . 7-Chloro-L-tryptophan oxidase (1.4.3.23)
C12Y 104/03024	. . Pseudooxynicotine oxidase (1.4.3.24)
C12Y 104/04	. with a disulfide as acceptor (1.4.4)
C12Y 104/04002	. . Glycine dehydrogenase (decarboxylating) (1.4.4.2)
C12Y 104/05	. with a quinone or similar compound as acceptor (1.4.5)
C12Y 104/05001	. . D-Amino acid dehydrogenase (quinone) (1.4.5.1)
C12Y 104/07	. with an iron-sulfur protein as acceptor (1.4.7)
C12Y 104/07001	. . Glutamate synthase (ferredoxin) (1.4.7.1)
C12Y 104/09	. with a copper protein as acceptor (1.4.9)
C12Y 104/09001	. . Methylamine dehydrogenase (amicyanin) (1.4.9.1)
C12Y 104/09002	. . Aralkylamine dehydrogenase (azurin) (1.4.9.2)
C12Y 104/98	. with other, known, acceptors (1.4.98)
C12Y 104/99	. with other acceptors (1.4.99)
C12Y 104/99001	. . D-Amino-acid dehydrogenase (1.4.99.1)
C12Y 104/99002	. . Taurine dehydrogenase (1.4.99.2)
C12Y 104/99003	. . Amine dehydrogenase (1.4.99.3)
C12Y 104/99005	. . Glycine dehydrogenase (cyanide-forming) (1.4.99.5)
<b>C12Y 105/00</b>	<b>Oxidoreductases acting on the CH-NH group of donors (1.5)</b>
C12Y 105/01	. with NAD <sup>+</sup> or NADP <sup>+</sup> as acceptor (1.5.1)
C12Y 105/01001	. . Pyrroline-2-carboxylate reductase (1.5.1.1)
C12Y 105/01002	. . Pyrroline-5-carboxylate reductase (1.5.1.2)
C12Y 105/01003	. . Dihydrofolate reductase (1.5.1.3)
C12Y 105/01005	. . Methylene-tetrahydrofolate dehydrogenase (NADP <sup>+</sup> ) (1.5.1.5)
C12Y 105/01006	. . Formyltetrahydrofolate dehydrogenase (1.5.1.6)
C12Y 105/01007	. . Saccharopine dehydrogenase (NAD <sup>+</sup> , L-lysine-forming)(1.5.1.7)
C12Y 105/01008	. . Saccharopine dehydrogenase (NADP <sup>+</sup> , L-lysine-forming)(1.5.1.8)
C12Y 105/01009	. . Saccharopine dehydrogenase (NAD <sup>+</sup> , L-glutamate-forming)(1.5.1.9)
C12Y 105/0101	. . Saccharopine dehydrogenase (NADP <sup>+</sup> , L-glutamate-forming)(1.5.1.10)
C12Y 105/01011	. . D-Octopine dehydrogenase (1.5.1.11)

C12Y 105/01012	. . 1-Pyrroline-5-carboxylate dehydrogenase (1.5.1.12)
C12Y 105/01015	. . Methylenetetrahydrofolate dehydrogenase (NAD+) (1.5.1.15)
C12Y 105/01016	. . D-Lysopine dehydrogenase (1.5.1.16)
C12Y 105/01017	. . Alanopine dehydrogenase (1.5.1.17)
C12Y 105/01018	. . Ephedrine dehydrogenase (1.5.1.18)
C12Y 105/01019	. . D-Nopaline dehydrogenase (1.5.1.19), i.e. D-nopaline synthase
C12Y 105/0102	. . Methylenetetrahydrofolate reductase [NAD(P)H] (1.5.1.20)
C12Y 105/01021	. . DELTA1-piperidine-2-carboxylate reductase (1.5.1.21)
C12Y 105/01022	. . Strombine dehydrogenase (1.5.1.22)
C12Y 105/01023	. . Tauropine dehydrogenase (1.5.1.23)
C12Y 105/01024	. . N5-(Carboxyethyl)ornithine synthase (1.5.1.24)
C12Y 105/01025	. . Thiomorpholine-carboxylate dehydrogenase (1.5.1.25)
C12Y 105/01026	. . Beta-alanopine dehydrogenase (1.5.1.26)
C12Y 105/01027	. . 1,2-Dehydroreticulium reductase (NADPH) (1.5.1.27)
C12Y 105/01028	. . Opine dehydrogenase (1.5.1.28)
C12Y 105/01029	. . FMN reductase (1.5.1.29)
C12Y 105/0103	. . Flavin reductase (1.5.1.30)
C12Y 105/01031	. . Berberine reductase (1.5.1.31)
C12Y 105/01032	. . Vomilenine reductase (1.5.1.32)
C12Y 105/01033	. . Pteridine reductase (1.5.1.33)
C12Y 105/01034	. . 6,7-Dihydropteridine reductase (1.5.1.34)
C12Y 105/01036	. . Flavin reductase (NADH) (1.5.1.36)
C12Y 105/01037	. . FAD reductase (NADH) (1.5.1.37)
C12Y 105/01038	. . FMN reductase (NADPH) (1.5.1.38)
C12Y 105/01039	. . FMN reductase (NAD(P)H)(1.5.1.39)
C12Y 105/0104	. . 8-Hydroxy-5-deazaflavin:NADPH oxidoreductase (1.5.1.40)
C12Y 105/01041	. . Riboflavin reductase (NAD(P)H)(1.5.1.41)
C12Y 105/01042	. . FMN reductase (NADH) (1.5.1.42)
C12Y 105/01043	. . Carboxynorspermidine synthase (1.5.1.43)
C12Y 105/01044	. . Festuclavine dehydrogenase (1.5.1.44)
C12Y 105/01045	. . FAD reductase [NAD(P)H] (1.5.1.45)
C12Y 105/03	. with oxygen as acceptor (1.5.3)
C12Y 105/03001	. . Sarcosine oxidase (1.5.3.1)
C12Y 105/03002	. . N-Methyl-L-amino-acid oxidase (1.5.3.2)
C12Y 105/03004	. . N6-Methyl-lysine oxidase (1.5.3.4)
C12Y 105/03005	. . (S)-6-Hydroxynicotine oxidase (1.5.3.5)
C12Y 105/03006	. . (R)-6-Hydroxynicotine oxidase (1.5.3.6)
C12Y 105/03007	. . L-Pipecolate oxidase (1.5.3.7)
C12Y 105/0301	. . Dimethylglycine oxidase (1.5.3.10)

C12Y 105/03011	. . Polyamine oxidase (1.5.3.11) ( <a href="#">C12Y 105/03013</a> - <a href="#">C12Y 105/03017</a> take precedence)
C12Y 105/03012	. . Dihydrobenzophenanthridine oxidase (1.5.3.12)
C12Y 105/03013	. . N1-Acetylpolyamine oxidase (1.5.3.13)
C12Y 105/03014	. . Polyamine oxidase (propane-1,3-diamine-forming) (1.5.3.14)
C12Y 105/03015	. . N8-Acetylspermidine oxidase (propane-1,3-diamine-forming) (1.5.3.15)
C12Y 105/03016	. . Spermine oxidase (1.5.3.16)
C12Y 105/03017	. . Non-specific polyamine oxidase (1.5.3.17)
C12Y 105/03018	. . L-Saccharopine oxidase (1.5.3.18)
C12Y 105/03019	. . 4-Methylaminobutanoate oxidase (formaldehyde-forming) (1.5.3.19)
C12Y 105/0302	. . N-Alkylglycine oxidase (1.5.3.20)
C12Y 105/03021	. . 4-Methylaminobutanoate oxidase (methylamine-forming) (1.5.3.21)
C12Y 105/04	. with a disulfide as acceptor (1.5.4)
C12Y 105/04001	. . Pyrimidodiazepine synthase (1.5.4.1)
C12Y 105/05	. with a quinone or similar compound as acceptor (1.5.5)
C12Y 105/05001	. . Electron-transferring-flavoprotein dehydrogenase (1.5.5.1)
C12Y 105/07	. with an iron-sulfur protein as acceptor (1.5.7)
C12Y 105/07001	. . Methylene-tetrahydrofolate reductase (ferredoxin) (1.5.7.1)
C12Y 105/08	. with a flavin as acceptor (1.5.8)
C12Y 105/08001	. . Dimethylamine dehydrogenase (1.5.8.1)
C12Y 105/08002	. . Trimethylamine dehydrogenase (1.5.8.2)
C12Y 105/08003	. . Sarcosine dehydrogenase (1.5.8.3)
C12Y 105/08004	. . Dimethylglycine dehydrogenase (1.5.8.4)
C12Y 105/99	. with other acceptors (1.5.99)
C12Y 105/99003	. . L-Pipecolate dehydrogenase (1.5.99.3)
C12Y 105/99004	. . Nicotine dehydrogenase (1.5.99.4)
C12Y 105/99005	. . Methylglutamate dehydrogenase (1.5.99.5)
C12Y 105/99006	. . Spermidine dehydrogenase (1.5.99.6)
C12Y 105/99008	. . Proline dehydrogenase (1.5.99.8)
C12Y 105/99009	. . Methylene-tetrahydromethanopterin dehydrogenase (1.5.99.9)
C12Y 105/99011	. . 5,10-Methylene-tetrahydromethanopterin reductase (1.5.99.11)
C12Y 105/99012	. . Cytokinin dehydrogenase (1.5.99.12)
C12Y 105/99013	. . D-Proline dehydrogenase (1.5.99.13)
C12Y 105/99014	. . 6-Hydroxypseudoxyntine dehydrogenase (1.5.99.14)
<b>C12Y 106/00</b>	<b>Oxidoreductases acting on NADH or NADPH (1.6)</b>
C12Y 106/01	. with NAD <sup>+</sup> or NADP <sup>+</sup> as acceptor (1.6.1)
C12Y 106/01001	. . NAD(P) <sup>+</sup> transhydrogenase (B-specific) (1.6.1.1)
C12Y 106/01002	. . NAD(P) <sup>+</sup> Transhydrogenase (AB-specific) (1.6.1.2)
C12Y 106/02	. with a heme protein as acceptor (1.6.2)
C12Y 106/02002	. . Cytochrome-b5 reductase (1.6.2.2)

C12Y 106/02004	. . NADPH-hemoprotein reductase (1.6.2.4), i.e. NADP-cytochrome P450-reductase
C12Y 106/02005	. . NADPH--cytochrome-c2 reductase (1.6.2.5)
C12Y 106/02006	. . Leghemoglobin reductase (1.6.2.6)
C12Y 106/03	. with oxygen as acceptor (1.6.3)
C12Y 106/03001	. . NAD(P)H oxidase (1.6.3.1), i.e. NOX1
C12Y 106/05	. with a quinone or similar compound as acceptor (1.6.5)
C12Y 106/05002	. . NAD(P)H dehydrogenase (quinone) (1.6.5.2)
C12Y 106/05003	. . NADH dehydrogenase (ubiquinone) (1.6.5.3)
C12Y 106/05004	. . Monodehydroascorbate reductase (NADH) (1.6.5.4)
C12Y 106/05005	. . NADPH:quinone reductase (1.6.5.5)
C12Y 106/05006	. . p-Benzoquinone reductase (NADPH) (1.6.5.6)
C12Y 106/05007	. . 2-Hydroxy-1,4-benzoquinone reductase (1.6.5.7)
C12Y 106/05008	. . NADH:ubiquinone reductase (Na <sup>+</sup> -transporting) (1.6.5.8)
C12Y 106/05009	. . NADH:ubiquinone reductase (non-electrogenic) (1.6.5.9)
C12Y 106/0501	. . NADPH dehydrogenase (quinone) (1.6.5.10)
C12Y 106/06	. with a nitrogenous group as acceptor (1.6.6)
C12Y 106/06009	. . Trimethylamine-N-oxide reductase (1.6.6.9)
C12Y 106/99	. with other acceptors (1.6.99)
C12Y 106/99001	. . NADPH dehydrogenase (1.6.99.1)
C12Y 106/99003	. . NADH dehydrogenase (1.6.99.3)
C12Y 106/99005	. . NADH dehydrogenase (quinone) (1.6.99.5)

**C12Y 107/00****Oxidoreductases acting on other nitrogenous compounds as donors (1.7)**

C12Y 107/01	. with NAD <sup>+</sup> or NADP <sup>+</sup> as acceptor (1.7.1)
C12Y 107/01001	. . Nitrate reductase (NADH) (1.7.1.1)
C12Y 107/01002	. . Nitrate reductase [NAD(P)H] (1.7.1.2)
C12Y 107/01003	. . Nitrate reductase (NADPH) (1.7.1.3)
C12Y 107/01004	. . Nitrite reductase [NAD(P)H] (1.7.1.4)
C12Y 107/01005	. . Hyponitrite reductase (1.7.1.5)
C12Y 107/01006	. . Azobenzene reductase (1.7.1.6)
C12Y 107/01007	. . GMP reductase (1.7.1.7)
C12Y 107/01009	. . Nitroquinoline-N-oxide reductase (1.7.1.9)
C12Y 107/0101	. . Hydroxylamine reductase (NADH) (1.7.1.10)
C12Y 107/01011	. . 4-(Dimethylamino)phenylazoxybenzene reductase (1.7.1.11)
C12Y 107/01012	. . N-Hydroxy-2-acetamidofluorene reductase (1.7.1.12)
C12Y 107/01013	. . PreQ1 synthase (1.7.1.13)
C12Y 107/01014	. . Nitric oxide reductase (NAD(P), nitrous oxide-forming)(1.7.1.14)
C12Y 107/02	. with a cytochrome as acceptor (1.7.2)
C12Y 107/02001	. . Nitrite reductase (NO-forming) (1.7.2.1)
C12Y 107/02002	. . Nitrite reductase (cytochrome; ammonia-forming)(1.7.2.2)

C12Y 107/02003	. . Trimethylamine-N-oxide reductase (cytochrome c)(1.7.2.3)
C12Y 107/02004	. . Nitrous-oxide reductase (1.7.2.4)
C12Y 107/02005	. . Nitric-oxide reductase (cytochrome c)(1.7.2.5)
C12Y 107/02006	. . Hydroxylamine dehydrogenase (1.7.2.6)
C12Y 107/03	. with oxygen as acceptor (1.7.3)
C12Y 107/03001	. . Nitroalkane oxidase (1.7.3.1)
C12Y 107/03002	. . Acetylxidoxyl oxidase (1.7.3.2)
C12Y 107/03003	. . Factor-independent urate hydroxylase (1.7.3.3), i.e. uricase
C12Y 107/03004	. . Hydroxylamine oxidase (1.7.3.4)
C12Y 107/03005	. . 3-Aci-nitropropanoate oxidase (1.7.3.5)
C12Y 107/05	. with a quinone or similar compound as acceptor (1.7.5)
C12Y 107/05001	. . Nitrate reductase (quinone) (1.7.5.1)
C12Y 107/05002	. . Nitric oxide reductase (menaquinol) (1.7.5.2)
C12Y 107/06	. with a nitrogenous group as acceptor (1.7.6)
C12Y 107/06001	. . Nitrite dismutase (1.7.6.1)
C12Y 107/07	. with an iron-sulfur protein as acceptor (1.7.7)
C12Y 107/07001	. . Ferredoxin--nitrite reductase (1.7.7.1)
C12Y 107/07002	. . Ferredoxin--nitrate reductase (1.7.7.2)
C12Y 107/99	. with other acceptors (1.7.99)
C12Y 107/99001	. . Hydroxylamine reductase (1.7.99.1)
C12Y 107/99004	. . Nitrate reductase (1.7.99.4)
C12Y 107/99008	. . Hydrazine oxidoreductase (1.7.99.8)
<b>C12Y 108/00</b>	<b>Oxidoreductases acting on sulfur groups as donors (1.8)</b>
C12Y 108/01	. with NAD <sup>+</sup> or NADP <sup>+</sup> as acceptor (1.8.1)
C12Y 108/01002	. . Sulfite reductase (NADPH) (1.8.1.2)
C12Y 108/01003	. . Hypotaurine dehydrogenase (1.8.1.3)
C12Y 108/01004	. . Dihydrolipoyl dehydrogenase (1.8.1.4), i.e. lipoamide-dehydrogenase
C12Y 108/01005	. . 2-Oxopropyl-CoM reductase (carboxylating) (1.8.1.5)
C12Y 108/01006	. . Cystine reductase (1.8.1.6)
C12Y 108/01007	. . Glutathione-disulfide reductase (1.8.1.7), i.e. glutathione reductase (NADPH)
C12Y 108/01008	. . Protein-disulfide reductase (1.8.1.8), i.e. thioredoxin
C12Y 108/01009	. . Thioredoxin-disulfide reductase (1.8.1.9), i.e. thioredoxin-reductase
C12Y 108/0101	. . CoA-glutathione reductase (NADPH) (1.8.1.10)
C12Y 108/01011	. . Asparaginate reductase (1.8.1.11)
C12Y 108/01012	. . Trypanothione reductase (1.8.1.12)
C12Y 108/01013	. . Bis-gamma-glutamylcystine reductase (1.8.1.13)
C12Y 108/01014	. . CoA-disulfide reductase (1.8.1.14)
C12Y 108/01015	. . Mycothione reductase (1.8.1.15)
C12Y 108/01016	. . Glutathione amide reductase (1.8.1.16)

C12Y 108/01017	. . Dimethylsulfone reductase (1.8.1.17)
C12Y 108/02	. with a cytochrome as acceptor (1.8.2)
C12Y 108/02001	. . Sulfite dehydrogenase (1.8.2.1)
C12Y 108/02002	. . Thiosulfate dehydrogenase (1.8.2.2)
C12Y 108/02003	. . Sulfide-cytochrome-c reductase (flavocytochrome c)(1.8.2.3)
C12Y 108/02004	. . Dimethyl sulfide:cytochrome c2 reductase (1.8.2.4)
C12Y 108/03	. with oxygen as acceptor (1.8.3)
C12Y 108/03001	. . Sulfite oxidase (1.8.3.1)
C12Y 108/03002	. . Thiol oxidase (1.8.3.2)
C12Y 108/03003	. . Glutathione oxidase (1.8.3.3)
C12Y 108/03004	. . Methanethiol oxidase (1.8.3.4)
C12Y 108/03005	. . Prenylcysteine oxidase (1.8.3.5)
C12Y 108/03006	. . Farnesylcysteine lyase (1.8.3.6)
C12Y 108/04	. with a disulfide as acceptor (1.8.4)
C12Y 108/04001	. . Glutathione--homocystine transhydrogenase (1.8.4.1)
C12Y 108/04002	. . Protein-disulfide reductase (glutathione) (1.8.4.2), i.e. BdbC or BdbD
C12Y 108/04003	. . Glutathione--CoA-glutathione transhydrogenase (1.8.4.3)
C12Y 108/04004	. . Glutathione--cystine transhydrogenase (1.8.4.4)
C12Y 108/04005	. . Methionine-S-oxide reductase (1.8.4.5) ( <a href="#">C12Y 108/04013</a> or <a href="#">C12Y 108/04014</a> takes precedence)
C12Y 108/04007	. . Enzyme-thiol transhydrogenase (glutathione-disulfide) (1.8.4.7)
C12Y 108/04008	. . Phosphoadenylyl-sulfate reductase (thioredoxin) (1.8.4.8)
C12Y 108/04009	. . Adenylyl-sulfate reductase (glutathione) (1.8.4.9)
C12Y 108/0401	. . Adenylyl-sulfate reductase (thioredoxin) (1.8.4.10)
C12Y 108/04011	. . Peptide-methionine (S)-S-oxide reductase (1.8.4.11)
C12Y 108/04012	. . Peptide-methionine (R)-S-oxide reductase (1.8.4.12)
C12Y 108/04013	. . L-Methionine (S)-S-oxide reductase (1.8.4.13)
C12Y 108/04014	. . L-Methionine (R)-S-oxide reductase (1.8.4.14)
C12Y 108/05	. with a quinone or similar compound as acceptor (1.8.5)
C12Y 108/05001	. . Glutathione dehydrogenase (ascorbate) (1.8.5.1)
C12Y 108/05002	. . Thiosulfate dehydrogenase (quinone) (1.8.5.2)
C12Y 108/05003	. . Dimethylsulfoxide reductase (1.8.5.3)
C12Y 108/05004	. . Sulfide:quinone reductase (1.8.5.4)
C12Y 108/07	. with an iron-sulfur protein as acceptor (1.8.7)
C12Y 108/07001	. . Sulfite reductase (ferredoxin) (1.8.7.1)
C12Y 108/07002	. . Ferredoxin:thioredoxin reductase (1.8.7.2)
C12Y 108/98	. with other, known, acceptors (1.8.98)
C12Y 108/98001	. . CoB--CoM heterodisulfide reductase (1.8.98.1)
C12Y 108/98002	. . Sulfiredoxin (1.8.98.2)
C12Y 108/99	. with other acceptors (1.8.99)



- C12Y 108/99001 . . Sulfite reductase (1.8.99.1)
- C12Y 108/99002 . . Adenylyl-sulfate reductase (1.8.99.2)
- C12Y 108/99003 . . Hydrogensulfite reductase (1.8.99.3)

**C12Y 109/00****Oxidoreductases acting on a heme group of donors (1.9)**

- C12Y 109/03 . with oxygen as acceptor (1.9.3)
- C12Y 109/03001 . . Cytochrome-c oxidase (1.9.3.1)
- C12Y 109/06 . with a nitrogenous group as acceptor (1.9.6)
- C12Y 109/06001 . . Nitrate reductase (cytochrome) (1.9.6.1)
- C12Y 109/99 . with other acceptors (1.9.99)
- C12Y 109/99001 . . Iron--cytochrome-c reductase (1.9.99.1)

**C12Y 110/00****Oxidoreductases acting on diphenols and related substances as donors (1.10)**

- C12Y 110/01 . with NAD+ or NADP+ as acceptor (1.10.1)
- C12Y 110/01001 . . Trans-acenaphthene-1,2-diol dehydrogenase (1.10.1.1)
- C12Y 110/02 . with a cytochrome as acceptor (1.10.2)
- C12Y 110/02001 . . L-Ascorbate--cytochrome-b5 reductase (1.10.2.1)
- C12Y 110/02002 . . Ubiquinol-cytochrome-c reductase (1.10.2.2), i.e. electron-transport-complex-III
- C12Y 110/03 . with an oxygen as acceptor (1.10.3)
- C12Y 110/03001 . . Catechol oxidase (1.10.3.1), i.e. tyrosinase
- C12Y 110/03002 . . Laccase (1.10.3.2)
- C12Y 110/03003 . . L-ascorbate oxidase (1.10.3.3)
- C12Y 110/03004 . . O-aminophenol oxidase (1.10.3.4)
- C12Y 110/03005 . . 3-Hydroxyanthranilate oxidase (1.10.3.5)
- C12Y 110/03006 . . Rifamycin-B oxidase (1.10.3.6)
- C12Y 110/03009 . . Photosystem II (1.10.3.9)
- C12Y 110/0301 . . Ubiquinol oxidase (H+-transporting) (1.10.3.10)
- C12Y 110/03011 . . Ubiquinol oxidase (1.10.3.11)
- C12Y 110/03012 . . Menaquinol oxidase (H+-transporting) (1.10.3.12)
- C12Y 110/09 . with a copper protein as acceptor (1.10.9)
- C12Y 110/09001 . . Plastoquinol-plastocyanin reductase (1.10.9.1)
- C12Y 110/99 . with other acceptors (1.10.99)
- C12Y 110/99002 . . Ribosyldihydronicotinamide dehydrogenase (quinone) (1.10.99.2)
- C12Y 110/99003 . . Violaxanthin de-epoxidase (1.10.99.3)

**C12Y 111/00****Oxidoreductases acting on a peroxide as acceptor (1.11)**

- C12Y 111/01 . Peroxidases (1.11.1)
- C12Y 111/01001 . . NADH peroxidase (1.11.1.1)
- C12Y 111/01002 . . NADPH peroxidase (1.11.1.2)
- C12Y 111/01003 . . Fatty-acid peroxidase (1.11.1.3)

C12Y 111/01005	. . Cytochrome-c peroxidase (1.11.1.5)
C12Y 111/01006	. . Catalase (1.11.1.6)
C12Y 111/01007	. . Peroxidase (1.11.1.7), i.e. horseradish-peroxidase
C12Y 111/01008	. . Iodide peroxidase (1.11.1.8)
C12Y 111/01009	. . Glutathione peroxidase (1.11.1.9)
C12Y 111/0101	. . Chloride peroxidase (1.11.1.10)
C12Y 111/01011	. . L-ascorbate peroxidase (1.11.1.11)
C12Y 111/01012	. . Phospholipid-hydroperoxide glutathione peroxidase (1.11.1.12)
C12Y 111/01013	. . Manganese peroxidase (1.11.1.13)
C12Y 111/01014	. . Lignin peroxidase (1.11.1.14)
C12Y 111/01015	. . Peroxiredoxin (1.11.1.15)
C12Y 111/01016	. . Versatile peroxidase (1.11.1.16)
C12Y 111/01017	. . Glutathione amide-dependent peroxidase (1.11.1.17)
C12Y 111/01018	. . Bromide peroxidase (1.11.1.18)
C12Y 111/01019	. . Dye decolorizing peroxidase (1.11.1.19)
C12Y 111/0102	. . Prostamide/prostaglandin F2-alpha synthase (1.11.1.20)
C12Y 111/01021	. . Catalase-peroxidase (1.11.1.21)
C12Y 111/01802	. . Chloride peroxidase (vanadium-containing) (1.11.1.B2)
C12Y 111/01806	. . Iodide peroxidase (vanadium-containing) (1.11.1.B6)
C12Y 111/01807	. . Bromide peroxidase (heme-containing) (1.11.1.B7)
C12Y 111/01808	. . Bromide peroxidase (metal-containing) (1.11.1.B8)
C12Y 111/02	. with H <sub>2</sub> O <sub>2</sub> as acceptor, one oxygen atom of which is incorporated into the product (1.11.2)
C12Y 111/02001	. . Unspecific peroxygenase (1.11.2.1)
C12Y 111/02002	. . Myeloperoxidase (1.11.2.2)
C12Y 111/02003	. . Plant seed peroxygenase (1.11.2.3)
C12Y 111/02004	. . Fatty-acid peroxygenase (1.11.2.4)
<b>C12Y 112/00</b>	<b>Oxidoreductases acting on hydrogen as donor (1.12)</b>
C12Y 112/01	. with NAD <sup>+</sup> or NADP <sup>+</sup> as acceptor (1.12.1)
C12Y 112/01002	. . Hydrogen dehydrogenase (1.12.1.2)
C12Y 112/01003	. . Hydrogen dehydrogenase (NADP <sup>+</sup> ) (1.12.1.3)
C12Y 112/01004	. . Hydrogenase (NAD <sup>+</sup> , ferredoxin)(1.12.1.4)
C12Y 112/02	. with a cytochrome as acceptor (1.12.2)
C12Y 112/02001	. . Cytochrome-c3 hydrogenase (1.12.2.1)
C12Y 112/05	. with a quinone or similar compound as acceptor (1.12.5)
C12Y 112/05001	. . Hydrogen:quinone oxidoreductase (1.12.5.1)
C12Y 112/07	. with an iron-sulfur protein as acceptor (1.12.7)
C12Y 112/07002	. . Ferredoxin hydrogenase (1.12.7.2)
C12Y 112/98	. with other, known, acceptors (1.12.98)
C12Y 112/98001	. . Coenzyme F420 hydrogenase (1.12.98.1)

C12Y 112/98002	. . 5,10-Methenyltetrahydromethanopterin hydrogenase (1.12.98.2)
C12Y 112/98003	. . Methanosarcina-phenazine hydrogenase (1.12.98.3)
C12Y 112/99	. with other acceptors (1.12.99)
C12Y 112/99006	. . Hydrogenase (acceptor) (1.12.99.6)
<b>C12Y 113/00</b>	<b>Oxidoreductases acting on single donors with incorporation of molecular oxygen (oxygenases) (1.13)</b>
C12Y 113/11	. with incorporation of two atoms of oxygen (1.13.11)
C12Y 113/11001	. . Catechol 1,2-dioxygenase (1.13.11.1)
C12Y 113/11002	. . Catechol 2,3-dioxygenase (1.13.11.2)
C12Y 113/11003	. . Protocatechuate 3,4-dioxygenase (1.13.11.3)
C12Y 113/11004	. . Gentisate 1,2-dioxygenase (1.13.11.4)
C12Y 113/11005	. . Homogentisate 1,2-dioxygenase (1.13.11.5)
C12Y 113/11006	. . 3-Hydroxyanthranilate 3,4-dioxygenase (1.13.11.6)
C12Y 113/11008	. . Protocatechuate 4,5-dioxygenase (1.13.11.8)
C12Y 113/11009	. . 2,5-Dihydroxypyridine 5,6-dioxygenase (1.13.11.9)
C12Y 113/1101	. . 7,8-Dihydroxykynurenate 8,8a-dioxygenase (1.13.11.10)
C12Y 113/11011	. . Tryptophan 2,3-dioxygenase (1.13.11.11), i.e. indolamine 2,3-dioxygenase 2
C12Y 113/11012	. . Linoleate 13S-lipoxygenase (1.13.11.12)
C12Y 113/11014	. . 2,3-Dihydroxybenzoate 3,4-dioxygenase (1.13.11.14)
C12Y 113/11015	. . 3,4-Dihydroxyphenylacetate 2,3-dioxygenase (1.13.11.15)
C12Y 113/11016	. . 3-Carboxyethylcatechol 2,3-dioxygenase (1.13.11.16)
C12Y 113/11017	. . Indole 2,3-dioxygenase (1.13.11.17)
C12Y 113/11018	. . Sulfur dioxygenase (1.13.11.18)
C12Y 113/11019	. . Cysteamine dioxygenase (1.13.11.19)
C12Y 113/1102	. . Cysteine dioxygenase (1.13.11.20)
C12Y 113/11022	. . Caffeate 3,4-dioxygenase (1.13.11.22)
C12Y 113/11023	. . 2,3-Dihydroxyindole 2,3-dioxygenase (1.13.11.23)
C12Y 113/11024	. . Quercetin 2,3-dioxygenase (1.13.11.24)
C12Y 113/11025	. . 3,4-Dihydroxy-9,10-secoandrosta-1,3,5(10)-triene-9,17-dione 4,5-dioxygenase (1.13.11.25)
C12Y 113/11026	. . Peptide-tryptophan 2,3-dioxygenase (1.13.11.26)
C12Y 113/11027	. . 4-Hydroxyphenylpyruvate dioxygenase (1.13.11.27)
C12Y 113/11028	. . 2,3-Dihydroxybenzoate 2,3-dioxygenase (1.13.11.28)
C12Y 113/11029	. . Stizolobate synthase (1.13.11.29)
C12Y 113/1103	. . Stizolobinate synthase (1.13.11.30)
C12Y 113/11031	. . Arachidonate 12-lipoxygenase (1.13.11.31), i.e. lipoxygenase-type-12
C12Y 113/11033	. . Arachidonate 15-lipoxygenase (1.13.11.33)
C12Y 113/11034	. . Arachidonate 5-lipoxygenase (1.13.11.34)
C12Y 113/11035	. . Pyrogallol 1,2-oxygenase (1.13.11.35)
C12Y 113/11036	. . Chloridazon-catechol dioxygenase (1.13.11.36)

C12Y 113/11037	. . Hydroxyquinol 1,2-dioxygenase (1.13.11.37)
C12Y 113/11038	. . 1-Hydroxy-2-naphthoate 1,2-dioxygenase (1.13.11.38)
C12Y 113/11039	. . Biphenyl-2,3-diol 1,2-dioxygenase (1.13.11.39)
C12Y 113/1104	. . Arachidonate 8-lipoxygenase (1.13.11.40)
C12Y 113/11041	. . 2,4'-Dihydroxyacetophenone dioxygenase (1.13.11.41)
C12Y 113/11043	. . Lignostilbene alpha-beta-dioxygenase (1.13.11.43)
C12Y 113/11044	. . Linoleate diol synthase (1.13.11.44) ( <a href="#">C12Y 113/1106</a> , <a href="#">C12Y 504/04006</a> take precedence)
C12Y 113/11045	. . Linoleate 11-lipoxygenase (1.13.11.45)
C12Y 113/11046	. . 4-Hydroxymandelate synthase (1.13.11.46)
C12Y 113/11047	. . 3-Hydroxy-4-oxoquinoline 2,4-dioxygenase (1.13.11.47)
C12Y 113/11048	. . 3-Hydroxy-2-methylquinolin-4-one 2,4-dioxygenase (1.13.11.48)
C12Y 113/11049	. . Chlorite O <sub>2</sub> -lyase (1.13.11.49)
C12Y 113/1105	. . Acetylacetone-cleaving enzyme (1.13.11.50)
C12Y 113/11051	. . 9-Cis-epoxycarotenoid dioxygenase (1.13.11.51)
C12Y 113/11052	. . Indoleamine 2,3-dioxygenase (1.13.11.52), i.e. indoleamine 2,3-dioxygenase 1
C12Y 113/11053	. . Acireductone dioxygenase (Ni <sup>2+</sup> -requiring) (1.13.11.53)
C12Y 113/11054	. . Acireductone dioxygenase (Fe(2+)-requiring)(1.13.11.54)
C12Y 113/11055	. . Sulfur oxygenase/reductase (1.13.11.55)
C12Y 113/11056	. . 1,2-Dihydroxynaphthalene dioxygenase (1.13.11.56)
C12Y 113/11057	. . Gallate dioxygenase (1.13.11.57)
C12Y 113/11058	. . Linoleate 9S-lipoxygenase (1.13.11.58)
C12Y 113/11059	. . Torulene dioxygenase (1.13.11.59)
C12Y 113/1106	. . Linoleate 8R-lipoxygenase (1.13.11.60)
C12Y 113/11061	. . Linoleate 9R-lipoxygenase (1.13.11.61)
C12Y 113/11062	. . Linoleate 10R-lipoxygenase (1.13.11.62)
C12Y 113/11063	. . Beta-carotene 15,15'-dioxygenase (1.13.11.63)
C12Y 113/11064	. . 5-Nitrosalicylate dioxygenase (1.13.11.64)
C12Y 113/11065	. . Carotenoid isomeroxygenase (1.13.11.65)
C12Y 113/11066	. . Hydroquinone 1,2-dioxygenase (1.13.11.66)
C12Y 113/11067	. . 8'-Apo-beta-carotenoid 14',13'-cleaving dioxygenase (1.13.11.67)
C12Y 113/11068	. . 9-Cis-beta-carotene 9',10'-cleaving dioxygenase (1.13.11.68)
C12Y 113/11069	. . Carlactone synthase (1.13.11.69)
C12Y 113/1107	. . All-trans-10'-apo-beta-carotenal 13,14-cleaving dioxygenase (1.13.11.70)
C12Y 113/11071	. . Carotenoid-9',10'-cleaving dioxygenase (1.13.11.71)
C12Y 113/11072	. . 2-Hydroxyethylphosphonate dioxygenase (1.13.11.72)
C12Y 113/11073	. . Methylphosphonate synthase (1.13.11.73)
C12Y 113/12	. with incorporation of one atom of oxygen (internal monooxygenases or internal mixed function oxidases)(1.13.12)
C12Y 113/12001	. . Arginine 2-monooxygenase (1.13.12.1)

C12Y 113/12002	. . Lysine 2-monooxygenase (1.13.12.2)
C12Y 113/12003	. . Tryptophan 2-monooxygenase (1.13.12.3)
C12Y 113/12004	. . Lactate 2-monooxygenase (1.13.12.4)
C12Y 113/12005	. . Renilla-luciferin 2-monooxygenase (1.13.12.5), i.e. renilla-luciferase
C12Y 113/12006	. . Cypridina-luciferin 2-monooxygenase (1.13.12.6), i.e. cypridina-luciferase
C12Y 113/12007	. . Photinus-luciferin 4-monooxygenase (ATP-hydrolysing) (1.13.12.7), i.e. firefly-luciferase
C12Y 113/12008	. . Watasenia-luciferin 2-monooxygenase (1.13.12.8)
C12Y 113/12009	. . Phenylalanine 2-monooxygenase (1.13.12.9)
C12Y 113/12013	. . Oplophorus-luciferin 2-monooxygenase (1.13.12.13)
C12Y 113/12015	. . 3,4-Dihydroxyphenylalanine oxidative deaminase (1.13.12.15)
C12Y 113/12016	. . Nitronate monooxygenase (1.13.12.16)
C12Y 113/12017	. . Dichloroarcyriaflavin A synthase (1.13.12.17)
C12Y 113/12018	. . Dinoflagellate luciferase (1.13.12.18)
C12Y 113/12019	. . 2-Oxoglutarate dioxygenase (ethylene-forming) (1.13.12.19)
C12Y 113/99	. Miscellaneous (1.13.99)
C12Y 113/99001	. . Inositol oxygenase (1.13.99.1), i.e. myo-inositol oxygenase
C12Y 113/99003	. . Tryptophan 2'-dioxygenase (1.13.99.3), i.e. indole-3-alkane- $\alpha$ -hydroxylase
<b>C12Y 114/00</b>	<b>Oxidoreductases acting on paired donors, with incorporation or reduction of molecular oxygen (1.14)</b>
C12Y 114/11	. with 2-oxoglutarate as one donor, and incorporation of one atom each of oxygen into both donors (1.14.11)
C12Y 114/11001	. . Gamma-butyrobetaine dioxygenase (1.14.11.1)
C12Y 114/11002	. . Procollagen-proline dioxygenase (1.14.11.2), i.e. proline-hydroxylase
C12Y 114/11003	. . Pyrimidine-deoxynucleoside 2'-dioxygenase (1.14.11.3)
C12Y 114/11004	. . Procollagen-lysine 5-dioxygenase (1.14.11.4), i.e. lysine-hydroxylase
C12Y 114/11006	. . Thymine dioxygenase (1.14.11.6)
C12Y 114/11007	. . Procollagen-proline 3-dioxygenase (1.14.11.7)
C12Y 114/11008	. . Trimethyllysine dioxygenase (1.14.11.8)
C12Y 114/11009	. . Flavanone 3-dioxygenase (1.14.11.9), i.e. naringenin-3-dioxygenase
C12Y 114/1101	. . Pyrimidine-deoxynucleoside 1'-dioxygenase (1.14.11.10)
C12Y 114/11011	. . Hyoscyamine (6S)-dioxygenase (1.14.11.11)
C12Y 114/11012	. . Gibberellin-44 dioxygenase (1.14.11.12)
C12Y 114/11013	. . Gibberellin 2-beta-dioxygenase (1.14.11.13)
C12Y 114/11014	. . 6-Beta-hydroxyhyoscyamine epoxidase (1.14.11.14)
C12Y 114/11015	. . Gibberellin 3-beta-dioxygenase (1.14.11.15)
C12Y 114/11016	. . Peptide-aspartate beta-dioxygenase (1.14.11.16), i.e. aspartyl (asparaginy) beta-hydroxylase
C12Y 114/11017	. . Taurine dioxygenase (1.14.11.17)
C12Y 114/11018	. . Phytanoyl-CoA dioxygenase (1.14.11.18)

C12Y 114/11019	. . Leucocyanidin oxygenase (1.14.11.19)
C12Y 114/1102	. . Deacetoxyvindoline 4-hydroxylase (1.14.11.20)
C12Y 114/11021	. . Clavamate synthase (1.14.11.21)
C12Y 114/11022	. . Flavone synthase (1.14.11.22)
C12Y 114/11023	. . Flavonol synthase (1.14.11.23)
C12Y 114/11024	. . 2'-Deoxymugineic-acid 2'-dioxygenase (1.14.11.24)
C12Y 114/11025	. . Mugineic-acid 3-dioxygenase (1.14.11.25)
C12Y 114/11026	. . Deacetoxycephalosporin-C hydroxylase (1.14.11.26)
C12Y 114/11027	. . [Histone H3]-lysine-36 demethylase (1.14.11.27)
C12Y 114/11028	. . Proline 3-hydroxylase (1.14.11.28)
C12Y 114/11029	. . Hypoxia-inducible factor-proline dioxygenase (1.14.11.29)
C12Y 114/1103	. . Hypoxia-inducible factor-asparagine dioxygenase (1.14.11.30)
C12Y 114/11031	. . Thebaine 6-O-demethylase (1.14.11.31)
C12Y 114/11032	. . Codeine 3-O-demethylase (1.14.11.32)
C12Y 114/11033	. . DNA oxidative demethylase (1.14.11.33)
C12Y 114/11034	. . 2-Oxoglutarate/L-arginine monooxygenase/decarboxylase (succinate-forming) (1.14.11.34)
C12Y 114/11035	. . 1-Deoxypentalenic acid 11beta-hydroxylase (1.14.11.35)
C12Y 114/11036	. . Pentalenolactone F synthase (1.14.11.36)
C12Y 114/12	. with NADH or NADPH as one donor, and incorporation of two atoms of oxygen into one donor (1.14.12)
C12Y 114/12001	. . Anthranilate 1,2-dioxygenase (deaminating, decarboxylating)(1.14.12.1)
C12Y 114/12003	. . Benzene 1,2-dioxygenase (1.14.12.3)
C12Y 114/12004	. . 3-Hydroxy-2-methylpyridinecarboxylate dioxygenase (1.14.12.4)
C12Y 114/12005	. . 5-Pyridoxate dioxygenase (1.14.12.5)
C12Y 114/12007	. . Phthalate 4,5-dioxygenase (1.14.12.7)
C12Y 114/12008	. . 4-Sulfobenzoate 3,4-dioxygenase (1.14.12.8)
C12Y 114/12009	. . 4-Chlorophenylacetate 3,4-dioxygenase (1.14.12.9)
C12Y 114/1201	. . Benzoate 1,2-dioxygenase (1.14.12.10)
C12Y 114/12011	. . Toluene dioxygenase (1.14.12.11)
C12Y 114/12012	. . Naphthalene 1,2-dioxygenase (1.14.12.12)
C12Y 114/12013	. . 2-Halobenzoate 1,2-dioxygenase (1.14.12.13)
C12Y 114/12014	. . 2-Aminobenzenesulfonate 2,3-dioxygenase (1.14.12.14)
C12Y 114/12015	. . Terephthalate 1,2-dioxygenase (1.14.12.15)
C12Y 114/12016	. . 2-Hydroxyquinoline 5,6-dioxygenase (1.14.12.16)
C12Y 114/12017	. . Nitric oxide dioxygenase (1.14.12.17)
C12Y 114/12018	. . Biphenyl 2,3-dioxygenase (1.14.12.18)
C12Y 114/12019	. . 3-Phenylpropanoate dioxygenase (1.14.12.19)
C12Y 114/1202	. . Pheophorbide a oxygenase (1.14.12.20)
C12Y 114/12021	. . Benzoyl-CoA 2,3-dioxygenase (1.14.12.21)



C12Y 114/12022	. . Carbazole 1,9a-dioxygenase (1.14.12.22)
C12Y 114/13	. with NADH or NADPH as one donor, and incorporation of one atom of oxygen (1.14.13)
C12Y 114/13001	. . Salicylate 1-monooxygenase (1.14.13.1)
C12Y 114/13002	. . 4-Hydroxybenzoate 3-monooxygenase (1.14.13.2)
C12Y 114/13004	. . Melilotate 3-monooxygenase (1.14.13.4)
C12Y 114/13005	. . Imidazoleacetate 4-monooxygenase (1.14.13.5)
C12Y 114/13006	. . Orcinol 2-monooxygenase (1.14.13.6)
C12Y 114/13007	. . Phenol 2-monooxygenase (1.14.13.7)
C12Y 114/13008	. . Flavin-containing monooxygenase (1.14.13.8), i.e. dimethylaniline-monooxygenase
C12Y 114/13009	. . Kynurenine 3-monooxygenase (1.14.13.9)
C12Y 114/1301	. . 2,6-Dihydroxypyridine 3-monooxygenase (1.14.13.10)
C12Y 114/13011	. . Trans-cinnamate 4-monooxygenase (1.14.13.11)
C12Y 114/13012	. . Benzoate 4-monooxygenase (1.14.13.12)
C12Y 114/13013	. . Calcidiol 1-monooxygenase (1.14.13.13), i.e. 25-hydroxyvitamin D-1-alpha-hydroxylase
C12Y 114/13014	. . Trans-cinnamate 2-monooxygenase (1.14.13.14)
C12Y 114/13015	. . Cholestanetriol 26-monooxygenase (1.14.13.15)
C12Y 114/13016	. . Cyclopentanone monooxygenase (1.14.13.16)
C12Y 114/13017	. . Cholesterol 7-alpha-monooxygenase (1.14.13.17)
C12Y 114/13018	. . 4-Hydroxyphenylacetate 1-monooxygenase (1.14.13.18)
C12Y 114/13019	. . Taxifolin 8-monooxygenase (1.14.13.19)
C12Y 114/1302	. . 2,4-Dichlorophenol 6-monooxygenase (1.14.13.20)
C12Y 114/13021	. . Flavonoid 3'-monooxygenase (1.14.13.21)
C12Y 114/13022	. . Cyclohexanone monooxygenase (1.14.13.22)
C12Y 114/13023	. . 3-Hydroxybenzoate 4-monooxygenase (1.14.13.23)
C12Y 114/13024	. . 3-Hydroxybenzoate 6-monooxygenase (1.14.13.24)
C12Y 114/13025	. . Methane monooxygenase (1.14.13.25)
C12Y 114/13026	. . Phosphatidylcholine 12-monooxygenase (1.14.13.26)
C12Y 114/13027	. . 4-Aminobenzoate 1-monooxygenase (1.14.13.27)
C12Y 114/13028	. . 3,9-Dihydroxypterocarpan 6A-monooxygenase (1.14.13.28)
C12Y 114/13029	. . 4-Nitrophenol 2-monooxygenase (1.14.13.29)
C12Y 114/1303	. . Leukotriene-B4 20-monooxygenase (1.14.13.30), i.e. leukotriene-B4-omega-hydroxylase
C12Y 114/13031	. . 2-Nitrophenol 2-monooxygenase (1.14.13.31)
C12Y 114/13032	. . Albendazole monooxygenase (1.14.13.32)
C12Y 114/13033	. . 4-Hydroxybenzoate 3-monooxygenase (NAD(P)H)(1.14.13.33)
C12Y 114/13034	. . Leukotriene-E4 20-monooxygenase (1.14.13.34)
C12Y 114/13035	. . Anthranilate 3-monooxygenase (deaminating) (1.14.13.35)
C12Y 114/13036	. . 5-O-(4-Coumaroyl)-D-quinic acid 3'-monooxygenase (1.14.13.36)
C12Y 114/13037	. . Methyltetrahydroprotoberberine 14-monooxygenase (1.14.13.37)

C12Y 114/13038	. .	Anhydrotetracycline monooxygenase (1.14.13.38)
C12Y 114/13039	. .	Nitric-oxide synthase (NADPH dependent) (1.14.13.39)
C12Y 114/1304	. .	Anthraniloyl-CoA monooxygenase (1.14.13.40)
C12Y 114/13041	. .	Tyrosine N-monooxygenase (1.14.13.41)
C12Y 114/13043	. .	Questin monooxygenase (1.14.13.43)
C12Y 114/13044	. .	2-Hydroxybiphenyl 3-monooxygenase (1.14.13.44)
C12Y 114/13046	. .	(-)-Menthol monooxygenase (1.14.13.46)
C12Y 114/13047	. .	(S)-Limonene 3-monooxygenase (1.14.13.47)
C12Y 114/13048	. .	(S)-Limonene 6-monooxygenase (1.14.13.48)
C12Y 114/13049	. .	(S)-Limonene 7-monooxygenase (1.14.13.49)
C12Y 114/1305	. .	Pentachlorophenol monooxygenase (1.14.13.50)
C12Y 114/13051	. .	6-Oxocineole dehydrogenase (1.14.13.51)
C12Y 114/13052	. .	Isoflavone 3'-hydroxylase (1.14.13.52)
C12Y 114/13053	. .	4'-Methoxyisoflavone 2'-hydroxylase (1.14.13.53)
C12Y 114/13054	. .	Ketosteroid monooxygenase (1.14.13.54)
C12Y 114/13055	. .	Protopine 6-monooxygenase (1.14.13.55)
C12Y 114/13056	. .	Dihydrosanguinarine 10-monooxygenase (1.14.13.56)
C12Y 114/13057	. .	Dihydrochelirubine 12-monooxygenase (1.14.13.57)
C12Y 114/13058	. .	Benzoyl-CoA 3-monooxygenase (1.14.13.58)
C12Y 114/13059	. .	L-Lysine N6-monooxygenase (NADPH) (1.14.13.59)
C12Y 114/1306	. .	27-Hydroxycholesterol 7-alpha-monooxygenase (1.14.13.60)
C12Y 114/13061	. .	2-Hydroxyquinoline 8-monooxygenase (1.14.13.61)
C12Y 114/13062	. .	4-Hydroxyquinoline 3-monooxygenase (1.14.13.62)
C12Y 114/13063	. .	3-Hydroxyphenylacetate 6-hydroxylase (1.14.13.63)
C12Y 114/13064	. .	4-Hydroxybenzoate 1-hydroxylase (1.14.13.64)
C12Y 114/13066	. .	2-Hydroxycyclohexanone 2-monooxygenase (1.14.13.66)
C12Y 114/13067	. .	Quinine 3-monooxygenase (1.14.13.67)
C12Y 114/13068	. .	4-Hydroxyphenylacetaldehyde oxime monooxygenase (1.14.13.68)
C12Y 114/13069	. .	Alkene monooxygenase (1.14.13.69)
C12Y 114/1307	. .	Sterol 14-demethylase (1.14.13.70)
C12Y 114/13071	. .	N-Methylcoclaurine 3'-monooxygenase (1.14.13.71)
C12Y 114/13072	. .	Methylsterol monooxygenase (1.14.13.72)
C12Y 114/13073	. .	Tabersonine 16-hydroxylase (1.14.13.73)
C12Y 114/13074	. .	7-Deoxyloganin 7-hydroxylase (1.14.13.74)
C12Y 114/13075	. .	Vinorine hydroxylase (1.14.13.75)
C12Y 114/13076	. .	Taxane 10-beta-hydroxylase (1.14.13.76)
C12Y 114/13077	. .	Taxane 13-alpha-hydroxylase (1.14.13.77)
C12Y 114/13078	. .	Ent-kaurene oxidase (1.14.13.78)
C12Y 114/13079	. .	Ent-kaurenoic acid oxidase (1.14.13.79)
C12Y 114/1308	. .	(R)-Limonene 6-monooxygenase (1.14.13.80)

C12Y 114/13081	. . Magnesium-protoporphyrin IX monomethyl ester (oxidative) cyclase (1.14.13.81)
C12Y 114/13082	. . Vanillate monooxygenase (1.14.13.82)
C12Y 114/13083	. . Precorrin-3B synthase (1.14.13.83)
C12Y 114/13084	. . 4-Hydroxyacetophenone monooxygenase (1.14.13.84)
C12Y 114/13085	. . Glyceollin synthase (1.14.13.85)
C12Y 114/13086	. . 2-Hydroxyisoflavanone synthase (1.14.13.86)
C12Y 114/13087	. . Licodione synthase (1.14.13.87)
C12Y 114/13088	. . Flavonoid 3',5'-hydroxylase (1.14.13.88)
C12Y 114/13089	. . Isoflavone 2'-hydroxylase (1.14.13.89)
C12Y 114/1309	. . Zeaxanthin epoxidase (1.14.13.90)
C12Y 114/13091	. . Deoxysarpagine hydroxylase (1.14.13.91)
C12Y 114/13092	. . Phenylacetone monooxygenase (1.14.13.92)
C12Y 114/13093	. . (+)-Absciscic acid 8'-hydroxylase (1.14.13.93)
C12Y 114/13094	. . Lithocholate 6-beta-hydroxylase (1.14.13.94)
C12Y 114/13095	. . 7-Alpha-hydroxycholest-4-en-3-one 12-alpha-hydroxylase (1.14.13.95)
C12Y 114/13096	. . 5-Beta-cholestane-3-alpha,7-alpha-diol 12-alpha-hydroxylase (1.14.13.96)
C12Y 114/13097	. . Taurochenodeoxycholate 6-alpha-hydroxylase (1.14.13.97)
C12Y 114/13098	. . Cholesterol 24-hydroxylase (1.14.13.98)
C12Y 114/13099	. . 24-Hydroxycholesterol 7-alpha-hydroxylase (1.14.13.99)
C12Y 114/131	. . 25-Hydroxycholesterol 7-alpha-hydroxylase (1.14.13.100)
C12Y 114/13101	. . Senecionine N-oxygenase (1.14.13.101)
C12Y 114/13102	. . Psoralen synthase (1.14.13.102)
C12Y 114/13103	. . 8-Dimethylallylnaringenin 2'-hydroxylase (1.14.13.103)
C12Y 114/13104	. . (+)-Menthofuran synthase (1.14.13.104)
C12Y 114/13105	. . Monocyclic monoterpene ketone monooxygenase (1.14.13.105)
C12Y 114/13106	. . Epi-isozizaene 5-monooxygenase (1.14.13.106)
C12Y 114/13107	. . Limonene 1,2-monooxygenase (1.14.13.107)
C12Y 114/13108	. . Abieta-7,13-diene hydroxylase (1.14.13.108)
C12Y 114/13109	. . Abieta-7,13-dien-18-ol hydroxylase (1.14.13.109)
C12Y 114/1311	. . Geranylgeraniol 18-hydroxylase (1.14.13.110)
C12Y 114/13111	. . Methanesulfonate monooxygenase (1.14.13.111)
C12Y 114/13112	. . 3-Epi-6-deoxocathasterone 23-monooxygenase (1.14.13.112)
C12Y 114/13113	. . FAD-dependent urate hydroxylase (1.14.13.113)
C12Y 114/13114	. . 6-Hydroxynicotinate 3-monooxygenase (1.14.13.114)
C12Y 114/13115	. . Angelicin synthase (1.14.13.115)
C12Y 114/13116	. . Geranylhydroquinone 3'-hydroxylase (1.14.13.116)
C12Y 114/13117	. . Isoleucine N-monooxygenase (1.14.13.117)
C12Y 114/13118	. . Valine N-monooxygenase (1.14.13.118)
C12Y 114/13119	. . 5-Epiaristolochene 1,3-dihydroxylase (1.14.13.119)
C12Y 114/1312	. . Costunolide synthase (1.14.13.120)

C12Y 114/13121	. . Premnaspirodiene oxygenase (1.14.13.121)
C12Y 114/13122	. . Chlorophyllide-a oxygenase (1.14.13.122)
C12Y 114/13123	. . Germacrene A hydroxylase (1.14.13.123)
C12Y 114/13124	. . Phenylalanine N-monooxygenase (1.14.13.124)
C12Y 114/13125	. . Tryptophan N-monooxygenase (1.14.13.125)
C12Y 114/13126	. . Vitamin D3 24-hydroxylase (1.14.13.126)
C12Y 114/13127	. . 3-(3-Hydroxy-phenyl)propanoic acid hydroxylase (1.14.13.127)
C12Y 114/13128	. . 7-Methylxanthine demethylase (1.14.13.128)
C12Y 114/13129	. . Beta-carotene 3-hydroxylase (1.14.13.129)
C12Y 114/1313	. . Pyrrole-2-carboxylate monooxygenase (1.14.13.130)
C12Y 114/13131	. . Dimethyl-sulfide monooxygenase (1.14.13.131)
C12Y 114/13132	. . Squalene monooxygenase (1.14.13.132)
C12Y 114/13133	. . Pentalenene oxygenase (1.14.13.133)
C12Y 114/13134	. . Beta-amyrin 11-oxidase (1.14.13.134)
C12Y 114/13135	. . 1-Hydroxy-2-naphthoate hydroxylase (1.14.13.135)
C12Y 114/13136	. . Isoflavonoid synthase (1.14.13.136)
C12Y 114/13137	. . Indole-2-monooxygenase (1.14.13.137)
C12Y 114/13138	. . Indolin-2-one monooxygenase (1.14.13.138)
C12Y 114/13139	. . 3-Hydroxyindolin-2-one monooxygenase (1.14.13.139)
C12Y 114/1314	. . 2-Hydroxy-1,4-benzoxazin-3-one monooxygenase (1.14.13.140)
C12Y 114/13141	. . Cholest-4-en-3-one 26-monooxygenase (1.14.13.141)
C12Y 114/13142	. . 3-Ketosteroid 9alpha-monooxygenase (1.14.13.142)
C12Y 114/13143	. . Ent-isokaurene C2-hydroxylase (1.14.13.143)
C12Y 114/13144	. . 9Beta-pimara-7,15-diene oxidase (1.14.13.144)
C12Y 114/13145	. . Ent-cassa-12,15-diene 11-hydroxylase (1.14.13.145)
C12Y 114/13146	. . Taxoid 14beta-hydroxylase (1.14.13.146)
C12Y 114/13147	. . Taxoid 7beta-hydroxylase (1.14.13.147)
C12Y 114/13148	. . Trimethylamine monooxygenase (1.14.13.148)
C12Y 114/13149	. . Phenylacetyl-CoA 1,2-epoxidase (1.14.13.149)
C12Y 114/1315	. . Alpha-humulene 10-hydroxylase (1.14.13.150)
C12Y 114/13151	. . Linalool 8-monooxygenase (1.14.13.151)
C12Y 114/13152	. . Geraniol 8-hydroxylase (1.14.13.152)
C12Y 114/13153	. . (+)-Sabinene 3-hydroxylase (1.14.13.153)
C12Y 114/13154	. . Erythromycin 12 hydroxylase (1.14.13.154)
C12Y 114/13155	. . Alpha-pinene monooxygenase (1.14.13.155)
C12Y 114/13156	. . 1,8-Cineole 2-endo-monooxygenase (1.14.13.156)
C12Y 114/13157	. . 1,8-Cineole 2-exo-monooxygenase (1.14.13.157)
C12Y 114/13158	. . Amorpha-4,11-diene 12-monooxygenase (1.14.13.158)
C12Y 114/13159	. . Vitamin D 25-hydroxylase (1.14.13.159)

C12Y 114/1316	. . (2,2,3-Trimethyl-5-oxocyclopent-3-enyl)acetyl-CoA 1,5-monooxygenase (1.14.13.160)
C12Y 114/13161	. . (+)-Camphor 6-exo-hydroxylase (1.14.13.161)
C12Y 114/13162	. . 2,5-Diketocamphane 1,2-monooxygenase (1.14.13.162), i.e. camphor 1,2-monooxygenase
C12Y 114/13163	. . 6-Hydroxy-3-succinoylpyridine 3-monooxygenase (1.14.13.163)
C12Y 114/13165	. . Nitric-oxide synthase [NAD(P)H-dependent] (1.14.13.165)
C12Y 114/13166	. . 4-Nitrocatechol 4-monooxygenase (1.14.13.166)
C12Y 114/13167	. . 4-Nitrophenol 4-monooxygenase (1.14.13.167)
C12Y 114/13168	. . Indole-3-pyruvate monooxygenase (1.14.13.168)
C12Y 114/13169	. . Sphinganine C4-monooxygenase (1.14.13.169)
C12Y 114/1317	. . Pentalenolactone D synthase (1.14.13.170)
C12Y 114/13171	. . Neopentalenolactone D synthase (1.14.13.171)
C12Y 114/1381	. . L-Ornithine N5-monooxygenase (1.14.13.B10)
C12Y 114/14	. with reduced flavin or flavoprotein as one donor, and incorporation of one atom of oxygen (1.14.14)
C12Y 114/14001	. . Unspecific monooxygenase (1.14.14.1)
C12Y 114/14003	. . Alkanal monooxygenase FMN (1.14.14.3), i.e. bacterial-luciferase
C12Y 114/14005	. . Alkanesulfonate monooxygenase (1.14.14.5)
C12Y 114/14007	. . Tryptophan 7-halogenase (1.14.14.7)
C12Y 114/14008	. . Anthranilate 3-monooxygenase (FAD) (1.14.14.8)
C12Y 114/14009	. . 4-Hydroxyphenylacetate 3-monooxygenase (1.14.14.9)
C12Y 114/1401	. . Nitrilotriacetate monooxygenase (1.14.14.10)
C12Y 114/14011	. . Styrene monooxygenase (1.14.14.11)
C12Y 114/14012	. . 3-Hydroxy-9,10-seconandrost-1,3,5(10)-triene-9,17-dione monooxygenase (1.14.14.12)
C12Y 114/14013	. . 4-(L-Gamma-glutamylamino)butanoyl-[BtrI acyl-carrier protein] monooxygenase (1.14.14.13)
C12Y 114/15	. with reduced iron-sulfur protein as one donor, and incorporation of one atom of oxygen (1.14.15)
C12Y 114/15001	. . Camphor 5-monooxygenase (1.14.15.1)
C12Y 114/15003	. . Alkane 1-monooxygenase (1.14.15.3)
C12Y 114/15004	. . Steroid 11-beta-monooxygenase (1.14.15.4)
C12Y 114/15005	. . Corticosterone 18-monooxygenase (1.14.15.5)
C12Y 114/15006	. . Cholesterol monooxygenase (side-chain-cleaving) (1.14.15.6), i.e. cytochrome P450 <sub>scc</sub>
C12Y 114/15007	. . Choline monooxygenase (1.14.15.7)
C12Y 114/15008	. . Steroid 15-beta-monooxygenase (1.14.15.8)
C12Y 114/15009	. . Spheroidene monooxygenase (1.14.15.9)
C12Y 114/1501	. . (+)-Camphor 6-endo-hydroxylase (1.14.15.10)
C12Y 114/15011	. . Pentalenic acid synthase (1.14.15.11)
C12Y 114/15802	. . Spheroidene monooxygenase (1.14.15.B2), i.e. acyclic carotenoid 2-ketolase

C12Y 114/16	. with reduced pteridine as one donor, and incorporation of one atom of oxygen (1.14.16)
C12Y 114/16001	. . Phenylalanine 4-monooxygenase (1.14.16.1)
C12Y 114/16002	. . Tyrosine 3-monooxygenase (1.14.16.2)
C12Y 114/16003	. . Anthranilate 3-monooxygenase (1.14.16.3)
C12Y 114/16004	. . Tryptophan 5-monooxygenase (1.14.16.4)
C12Y 114/16005	. . Alkylglycerol monooxygenase (1.14.16.5)
C12Y 114/16006	. . Mandelate 4-monooxygenase (1.14.16.6)
C12Y 114/17	. with reduced ascorbate as one donor, and incorporation of one atom of oxygen (1.14.17)
C12Y 114/17001	. . Dopamine beta-monooxygenase (1.14.17.1)
C12Y 114/17003	. . Peptidylglycine monooxygenase (1.14.17.3)
C12Y 114/17004	. . Aminocyclopropanecarboxylate oxidase (1.14.17.4), i.e. ethylene-forming enzyme
C12Y 114/18	. with another compound as one donor, and incorporation of one atom of oxygen (1.14.18)
C12Y 114/18001	. . Tyrosinase (1.14.18.1)
C12Y 114/18002	. . CMP-N-acetylneuraminate monooxygenase (1.14.18.2)
C12Y 114/18003	. . Methane monooxygenase (particulate) (1.14.18.3)
C12Y 114/19	. with oxidation of a pair of donors resulting in the reduction of molecular oxygen to two molecules of water (1.14.19)
C12Y 114/19001	. . Stearoyl-CoA 9-desaturase (1.14.19.1), i.e. DELTA9-desaturase
C12Y 114/19002	. . Acyl-[acyl-carrier-protein] desaturase (1.14.19.2)
C12Y 114/19003	. . Linoleoyl-CoA desaturase (1.14.19.3)
C12Y 114/19004	. . DELTA8-fatty-acid desaturase (1.14.19.4)
C12Y 114/19005	. . DELTA11-fatty-acid desaturase (1.14.19.5)
C12Y 114/19006	. . DELTA12-fatty-acid desaturase (1.14.19.6), i.e. oleoyl-CoA DELTA12 desaturase
C12Y 114/19007	. . (S)-2-Hydroxypropylphosphonic acid epoxidase (1.14.19.7)
C12Y 114/20	. with 2-oxoglutarate as one donor, and the other dehydrogenated (1.14.20)
C12Y 114/20001	. . Deacetoxycephalosporin-C synthase (1.14.20.1)
C12Y 114/20002	. . 2,4-Dihydroxy-1,4-benzoxazin-3-one-glucoside dioxygenase (1.14.20.2)
C12Y 114/21	. with NADH or NADPH as one donor, and the other dehydrogenated (1.14.21)
C12Y 114/21001	. . (S)-Stylopine synthase (1.14.21.1)
C12Y 114/21002	. . (S)-Cheilanthifoline synthase (1.14.21.2)
C12Y 114/21003	. . Berbamunine synthase (1.14.21.3)
C12Y 114/21004	. . Salutaridine synthase (1.14.21.4)
C12Y 114/21005	. . (S)-Canadine synthase (1.14.21.5)
C12Y 114/21006	. . Lathosterol oxidase (1.14.21.6), i.e. C-5 sterol desaturase
C12Y 114/21007	. . Biflaviolin synthase (1.14.21.7)
C12Y 114/21008	. . Pseudobaptigenin synthase (1.14.21.8)
C12Y 114/99	. Miscellaneous (1.14.99)
C12Y 114/99001	. . Prostaglandin-endoperoxide synthase (1.14.99.1), i.e. cyclooxygenase



C12Y 114/99002	. . Kynurenine 7,8-hydroxylase (1.14.99.2)
C12Y 114/99003	. . Heme oxygenase (1.14.99.3)
C12Y 114/99004	. . Progesterone monooxygenase (1.14.99.4)
C12Y 114/99007	. . Squalene monooxygenase (1.14.99.7)
C12Y 114/99009	. . Steroid 17-alpha-monooxygenase (1.14.99.9), i.e. cytochrome-P450-steroid-17-alpha-hydroxylase
C12Y 114/9901	. . Steroid 21-monooxygenase (1.14.99.10), i.e. steroid cytochrome P450 21-hydroxylase
C12Y 114/99011	. . Estradiol 6-beta-monooxygenase (1.14.99.11)
C12Y 114/99012	. . Androst-4-ene-3,17-dione monooxygenase (1.14.99.12)
C12Y 114/99014	. . Progesterone 11-alpha-monooxygenase (1.14.99.14)
C12Y 114/99015	. . 4-Methoxybenzoate monooxygenase (O-demethylating) (1.14.99.15)
C12Y 114/99019	. . Plasmanylethanolamine desaturase (1.14.99.19)
C12Y 114/9902	. . Phylloquinone monooxygenase (2,3-epoxidizing) (1.14.99.20)
C12Y 114/99021	. . Latia-luciferin monooxygenase (demethylating) (1.14.99.21), i.e. Latia luciferase
C12Y 114/99022	. . Ecdysone 20-monooxygenase (1.14.99.22)
C12Y 114/99023	. . 3-Hydroxybenzoate 2-monooxygenase (1.14.99.23)
C12Y 114/99024	. . Steroid 9-alpha-monooxygenase (1.14.99.24)
C12Y 114/99026	. . 2-Hydroxypyridine 5-monooxygenase (1.14.99.26)
C12Y 114/99027	. . Juglone 3-monooxygenase (1.14.99.27)
C12Y 114/99029	. . Deoxyhypusine monooxygenase (1.14.99.29)
C12Y 114/99031	. . Myristoyl-CoA 11-(E) desaturase (1.14.99.31)
C12Y 114/99032	. . Myristoyl-CoA 11-(Z) desaturase (1.14.99.32)
C12Y 114/99033	. . DELTA12-fatty acid dehydrogenase (1.14.99.33)
C12Y 114/99034	. . Monoprenyl isoflavone epoxidase (1.14.99.34)
C12Y 114/99035	. . Thiophene-2-carbonyl-CoA monooxygenase (1.14.99.35)
C12Y 114/99036	. . Beta-carotene 15,15'-monooxygenase (1.14.99.36)
C12Y 114/99037	. . Taxadiene 5-alpha-hydroxylase (1.14.99.37)
C12Y 114/99038	. . Cholesterol 25-hydroxylase (1.14.99.38)
C12Y 114/99039	. . Ammonia monooxygenase (1.14.99.39)
C12Y 114/9904	. . 5,6-Dimethylbenzimidazole synthase (1.14.99.40)
C12Y 114/99041	. . All-trans-8'-apo-beta-carotenal 15,15'-oxygenase (1.14.99.41)
C12Y 114/99042	. . Zeaxanthin 7,8-dioxygenase (1.14.99.42)
C12Y 114/99043	. . Beta-amyrin 24-hydroxylase (1.14.99.43)
C12Y 114/99044	. . Diaplycopene oxygenase (1.14.99.44)
C12Y 114/99045	. . Carotene epsilon-monooxygenase (1.14.99.45)
C12Y 114/99046	. . Pyrimidine oxygenase (1.14.99.46)
C12Y 114/99047	. . (+)-Larreatricin hydroxylase (1.14.99.47)

**C12Y 115/00      Oxidoreductases acting on superoxide as acceptor (1.15)**

C12Y 115/01	. with NAD or NADP as acceptor (1.15.1)
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C12Y 115/01001 . . Superoxide dismutase (1.15.1.1)

C12Y 115/01002 . . Superoxide reductase (1.15.1.2)

### **C12Y 116/00 Oxidoreductases oxidizing metal ions (1.16)**

C12Y 116/01 . with NAD<sup>+</sup> or NADP<sup>+</sup> as acceptor (1.16.1)

C12Y 116/01001 . . Mercury(II) reductase (1.16.1.1)

C12Y 116/01002 . . Diferric-transferrin reductase (1.16.1.2)

C12Y 116/01003 . . Aquacobalamin reductase (1.16.1.3)

C12Y 116/01004 . . Cob(II)alamin reductase (1.16.1.4)

C12Y 116/01005 . . Aquacobalamin reductase (NADPH) (1.16.1.5)

C12Y 116/01006 . . Cyanocobalamin reductase (cyanide-eliminating) (1.16.1.6)

C12Y 116/01007 . . Ferric-chelate reductase (NADH) (1.16.1.7)

C12Y 116/01008 . . [Methionine synthase] reductase (1.16.1.8)

C12Y 116/01009 . . Ferric-chelate reductase (NADPH) (1.16.1.9)

C12Y 116/03 . with oxygen as acceptor (1.16.3)

C12Y 116/03001 . . Ferroxidase (1.16.3.1), i.e. ceruloplasmin

C12Y 116/05 . with a quinone or similar compound as acceptor (1.16.5)

C12Y 116/05001 . . Ascorbate ferrireductase (transmembrane) (1.16.5.1)

C12Y 116/08 . with flavin as acceptor (1.16.8)

C12Y 116/08001 . . Cob(II)yrinic acid a,c-diamide reductase (1.16.8.1)

C12Y 116/09 . with a copper protein as acceptor (1.16.9)

C12Y 116/09001 . . Iron:rusticyanin reductase (1.16.9.1)

C12Y 116/98 . with other, known, acceptors (1.16.98)

### **C12Y 117/00 Oxidoreductases acting on CH or CH<sub>2</sub> groups (1.17)**

C12Y 117/01 . with NAD<sup>+</sup> or NADP<sup>+</sup> as acceptor (1.17.1)

C12Y 117/01001 . . CDP-4-dehydro-6-deoxyglucose reductase (1.17.1.1)

C12Y 117/01002 . . 4-Hydroxy-3-methylbut-2-enyl diphosphate reductase (1.17.1.2)

C12Y 117/01003 . . Leucoanthocyanidin reductase (1.17.1.3)

C12Y 117/01004 . . Xanthine dehydrogenase (1.17.1.4)

C12Y 117/01005 . . Nicotinate dehydrogenase (1.17.1.5)

C12Y 117/01007 . . 3-Oxo-5,6-dehydrosuberil-CoA semialdehyde dehydrogenase (1.17.1.7)

C12Y 117/02 . with a cytochrome as acceptor (1.17.2)

C12Y 117/02001 . . Nicotinate dehydrogenase (cytochrome) (1.17.2.1)

C12Y 117/02002 . . Lupanine 17-hydroxylase (cytochrome c) (1.17.2.2)

C12Y 117/03 . with oxygen as acceptor (1.17.3)

C12Y 117/03001 . . Pteridine oxidase (1.17.3.1)

C12Y 117/03002 . . Xanthine oxidase (1.17.3.2)

C12Y 117/03003 . . 6-Hydroxynicotinate dehydrogenase (1.17.3.3)

C12Y 117/04 . with a disulfide as acceptor (1.17.3)

C12Y 117/04001 . . Ribonucleoside-diphosphate reductase (1.17.4.1)

C12Y 117/04002	. . Ribonucleoside-triphosphate reductase (1.17.4.2)
C12Y 117/05	. with a quinone or similar compound as acceptor (1.17.5)
C12Y 117/05001	. . Phenylacetyl-CoA dehydrogenase (1.17.5.1)
C12Y 117/05002	. . Caffeine dehydrogenase (1.17.5.2)
C12Y 117/07	. with an iron-sulfur protein as acceptor (1.17.7)
C12Y 117/07001	. . (E)-4-Hydroxy-3-methylbut-2-enyl-diphosphate synthase (1.17.7.1)
C12Y 117/07002	. . 7-Hydroxymethyl chlorophyll a reductase (1.17.7.2)
C12Y 117/99	. with other acceptors (1.17.99)
C12Y 117/99001	. . 4-Methylphenol dehydrogenase (hydroxylating) (1.17.99.1)
C12Y 117/99002	. . Ethylbenzene hydroxylase (1.17.99.2)
C12Y 117/99003	. . 3-Alpha,7-alpha,12-alpha-trihydroxy-5-beta-cholestanoyl-CoA 24-hydroxylase (1.17.99.3)
C12Y 117/99004	. . Uracil/thymine dehydrogenase (1.17.99.4)
C12Y 117/99005	. . Bile-acid 7-alpha-dehydroxylase (1.17.99.5)
<b>C12Y 118/00</b>	<b>Oxidoreductases acting on iron-sulfur proteins as donors (1.18)</b>
C12Y 118/01	. with NAD <sup>+</sup> or NADP <sup>+</sup> as acceptor (1.18.1)
C12Y 118/01001	. . Rubredoxin--NAD <sup>+</sup> reductase (1.18.1.1)
C12Y 118/01002	. . Ferredoxin-NADP <sup>+</sup> reductase (1.18.1.2)
C12Y 118/01003	. . Ferredoxin--NAD <sup>+</sup> reductase (1.18.1.3)
C12Y 118/01004	. . Rubredoxin--NAD(P) <sup>+</sup> reductase (1.18.1.4)
C12Y 118/01005	. . Putidaredoxin--NAD <sup>+</sup> reductase (1.18.1.5)
C12Y 118/01006	. . Adrenodoxin-NADP <sup>+</sup> reductase (1.18.1.6)
C12Y 118/06	. with dinitrogen as acceptor (1.18.6)
C12Y 118/06001	. . Nitrogenase (1.18.6.1)
<b>C12Y 119/00</b>	<b>Oxidoreductases acting on reduced flavodoxin as donor (1.19)</b>
C12Y 119/06	. with dinitrogen as acceptor (1.19.6)
C12Y 119/06001	. . Nitrogenase (flavodoxin) (1.19.6.1)
<b>C12Y 120/00</b>	<b>Oxidoreductases acting on phosphorus or arsenic in donors (1.20)</b>
C12Y 120/01	. with NAD <sup>+</sup> or NADP <sup>+</sup> as acceptor (1.20.1)
C12Y 120/01001	. . Phosphonate dehydrogenase (1.20.1.1)
C12Y 120/02	. with a cytochrome as acceptor (1.20.2)
C12Y 120/02001	. . Arsenate reductase (cytochrome c)(1.20.2.1)
C12Y 120/04	. acting on phosphorus or arsenic in donors, with disulfide as acceptor (1.20.4)
C12Y 120/04001	. . Arsenate reductase (1.20.4.1), i.e. glutaredoxin
C12Y 120/04002	. . Methylarsonate reductase (1.20.4.2)
C12Y 120/04003	. . Mycoredoxin (1.20.4.3)
C12Y 120/09	. with a copper protein as acceptor (1.20.9)
C12Y 120/09001	. . Arsenate reductase (azurin) (1.20.9.1)

C12Y 120/99	. with other acceptors (1.20.99)
C12Y 120/99001	. . Arsenate reductase (donor) (1.20.99.1)
<b>C12Y 121/00</b>	<b>Oxidoreductases acting on X-H and Y-H to form an X-Y bond (1.21)</b>
C12Y 121/03	. with oxygen as acceptor (1.21.3)
C12Y 121/03001	. . Isopenicillin-N synthase (1.21.3.1)
C12Y 121/03002	. . Columbamine oxidase (1.21.3.2)
C12Y 121/03003	. . Reticuline oxidase (1.21.3.3)
C12Y 121/03004	. . Sulochrin oxidase ((+)-bisdechlorogeodin-forming)(1.21.3.4)
C12Y 121/03005	. . Sulochrin oxidase ((-)-bisdechlorogeodin-forming)(1.21.3.5)
C12Y 121/03006	. . Aureusidin synthase (1.21.3.6)
C12Y 121/03007	. . Tetrahydrocannabinolic acid synthase (1.21.3.7)
C12Y 121/03008	. . Cannabidiolic acid synthase (1.21.3.8)
C12Y 121/04	. with a disulfide as acceptor (1.21.4)
C12Y 121/04001	. . D-Proline reductase (dithiol) (1.21.4.1)
C12Y 121/04002	. . Glycine reductase (1.21.4.2)
C12Y 121/04003	. . Sarcosine reductase (1.21.4.3)
C12Y 121/04004	. . Betaine reductase (1.21.4.4)
C12Y 121/99	. with other acceptors (1.21.99)
C12Y 121/99001	. . Beta-cyclopiasonate dehydrogenase (1.21.99.1)
<b>C12Y 122/00</b>	<b>Oxidoreductases acting on halogen in donors (1.22)</b>
C12Y 122/01	. with NAD <sup>+</sup> or NADP <sup>+</sup> as acceptor (1.22.1)
C12Y 122/01001	. . Iodotyrosine deiodinase (1.22.1.1)
<b>C12Y 197/00</b>	<b>Other oxidoreductases (1.97)</b>
C12Y 197/01	. other oxidoreductases (1.97.1)
C12Y 197/01001	. . Chlorate reductase (1.97.1.1)
C12Y 197/01002	. . Pyrogallol hydroxytransferase (1.97.1.2)
C12Y 197/01003	. . Sulfur reductase (1.97.1.3)
C12Y 197/01004	. . [Formate-C-acetyltransferase]-activating enzyme (1.97.1.4)
C12Y 197/01008	. . Tetrachloroethene reductive dehalogenase (1.97.1.8)
C12Y 197/01009	. . Selenate reductase (1.97.1.9)
C12Y 197/0101	. . Thyroxine 5'-deiodinase (1.97.1.10), i.e. deiodinase I or II
C12Y 197/01011	. . Thyroxine 5-deiodinase (1.97.1.11), i.e. deiodinase III
C12Y 197/01012	. . Photosystem I (1.97.1.12)
<b>C12Y 201/00</b>	<b>Transferases transferring one-carbon groups (2.1)</b>
C12Y 201/01	. Methyltransferases (2.1.1)
C12Y 201/01001	. . Nicotinamide N-methyltransferase (2.1.1.1)
C12Y 201/01002	. . Guanidinoacetate N-methyltransferase (2.1.1.2)

C12Y 201/01003	. . Thetin--homocysteine S-methyltransferase (2.1.1.3)
C12Y 201/01004	. . Acetylserotonin O-methyltransferase (2.1.1.4)
C12Y 201/01005	. . Betaine--homocysteine S-methyltransferase (2.1.1.5)
C12Y 201/01006	. . Catechol O-methyltransferase (2.1.1.6)
C12Y 201/01007	. . Nicotinate N-methyltransferase (2.1.1.7)
C12Y 201/01008	. . Histamine N-methyltransferase (2.1.1.8)
C12Y 201/01009	. . Thiol S-methyltransferase (2.1.1.9)
C12Y 201/0101	. . Homocysteine S-methyltransferase (2.1.1.10)
C12Y 201/01011	. . Magnesium protoporphyrin IX methyltransferase (2.1.1.11)
C12Y 201/01012	. . Methionine S-methyltransferase (2.1.1.12)
C12Y 201/01013	. . Methionine synthase (2.1.1.13)
C12Y 201/01014	. . 5-Methyltetrahydropteroyltriglutamate--homocysteine S-methyltransferase (2.1.1.14)
C12Y 201/01015	. . Fatty-acid O-methyltransferase (2.1.1.15)
C12Y 201/01016	. . Methylene-fatty-acyl-phospholipid synthase (2.1.1.16)
C12Y 201/01017	. . Phosphatidylethanolamine N-methyltransferase (2.1.1.17)
C12Y 201/01018	. . Polysaccharide O-methyltransferase (2.1.1.18)
C12Y 201/01019	. . Trimethylsulfonium--tetrahydrofolate N-methyltransferase (2.1.1.19)
C12Y 201/0102	. . Glycine N-methyltransferase (2.1.1.20)
C12Y 201/01021	. . Methylamine--glutamate N-methyltransferase (2.1.1.21)
C12Y 201/01022	. . Carnosine N-methyltransferase (2.1.1.22)
C12Y 201/01023	. . Protein-arginine N-methyltransferase (2.1.1.23) ( <a href="#">C12Y 201/01124</a> - <a href="#">C12Y 201/01126</a> take precedence)
C12Y 201/01024	. . Protein-gamma-glutamate O-methyltransferase (2.1.1.24) ( <a href="#">C12Y 201/01077</a> , <a href="#">C12Y 201/0108</a> , <a href="#">C12Y 201/011</a> take precedence)
C12Y 201/01025	. . Phenol O-methyltransferase (2.1.1.25)
C12Y 201/01026	. . Iodophenol O-methyltransferase (2.1.1.26)
C12Y 201/01027	. . Tyramine N-methyltransferase (2.1.1.27)
C12Y 201/01028	. . Phenylethanolamine N-methyltransferase (2.1.1.28)
C12Y 201/01029	. . tRNA (cytosine-5-)-methyltransferase (2.1.1.29) ( <a href="#">C12Y 201/01202</a> - <a href="#">C12Y 201/01204</a> take precedence)
C12Y 201/01031	. . tRNA (guanine-N1-)-methyltransferase (2.1.1.31) ( <a href="#">C12Y 201/01221</a> , <a href="#">C12Y 201/01228</a> take precedence)
C12Y 201/01032	. . tRNA (guanine-N2-)-methyltransferase (2.1.1.32) ( <a href="#">C12Y 201/01213</a> - <a href="#">C12Y 201/01216</a> take precedence)
C12Y 201/01033	. . tRNA (guanine-N7-)-methyltransferase (2.1.1.33)
C12Y 201/01034	. . tRNA (guanosine18-2'-O)-methyltransferase (2.1.1.34)
C12Y 201/01035	. . tRNA (uracil-5-)-methyltransferase (2.1.1.35)
C12Y 201/01036	. . tRNA (adenine-N1-)-methyltransferase (2.1.1.36) ( <a href="#">C12Y 201/01217</a> - <a href="#">C12Y 201/0122</a> take precedence)
C12Y 201/01037	. . DNA (cytosine-5-)-methyltransferase (2.1.1.37)
C12Y 201/01038	. . O-Demethylpuromycin O-methyltransferase (2.1.1.38)

C12Y 201/01039	. . Inositol 3-methyltransferase (2.1.1.39)
C12Y 201/0104	. . Inositol 1-methyltransferase (2.1.1.40)
C12Y 201/01041	. . Sterol 24-C-methyltransferase (2.1.1.41)
C12Y 201/01042	. . Flavone 3'-O-methyltransferase (2.1.1.42)
C12Y 201/01043	. . Histone-lysine N-methyltransferase (2.1.1.43)
C12Y 201/01044	. . Dimethylhistidine N-methyltransferase (2.1.1.44)
C12Y 201/01045	. . Thymidylate synthase (2.1.1.45)
C12Y 201/01046	. . Isoflavone 4'-O-methyltransferase (2.1.1.46)
C12Y 201/01047	. . Indolepyruvate C-methyltransferase (2.1.1.47)
C12Y 201/01048	. . rRNA (adenine-N6-)-methyltransferase (2.1.1.48) ( <a href="#">C12Y 201/01181</a> - <a href="#">C12Y 201/01184</a> take precedence)
C12Y 201/01049	. . Amine N-methyltransferase (2.1.1.49)
C12Y 201/0105	. . Loganate O-methyltransferase (2.1.1.50)
C12Y 201/01051	. . rRNA (guanine-N1-)-methyltransferase (2.1.1.51) ( <a href="#">C12Y 201/01187</a> , <a href="#">C12Y 201/01188</a> take precedence)
C12Y 201/01052	. . rRNA (guanine-N2-)-methyltransferase (2.1.1.52) ( <a href="#">C12Y 201/01171</a> - <a href="#">C12Y 201/01174</a> take precedence)
C12Y 201/01053	. . Putrescine N-methyltransferase (2.1.1.53)
C12Y 201/01054	. . Deoxycytidylate C-methyltransferase (2.1.1.54)
C12Y 201/01055	. . tRNA (adenine-N6-)-methyltransferase (2.1.1.55)
C12Y 201/01056	. . mRNA (guanine-N7-)-methyltransferase (2.1.1.56)
C12Y 201/01057	. . mRNA (nucleoside-2'-O-)-methyltransferase (2.1.1.57)
C12Y 201/01059	. . [Cytochrome c]-lysine N-methyltransferase (2.1.1.59)
C12Y 201/0106	. . Calmodulin-lysine N-methyltransferase (2.1.1.60)
C12Y 201/01061	. . tRNA (5-methylaminomethyl-2-thiouridylate)-methyltransferase (2.1.1.61)
C12Y 201/01062	. . mRNA (2'-O-methyladenosine-N6-)-methyltransferase (2.1.1.62)
C12Y 201/01063	. . Methylated-DNA-[protein]-cysteine S-methyltransferase (2.1.1.63), i.e. O6-methylguanine-DNA methyltransferase
C12Y 201/01064	. . 3-Demethylubiquinol 3-O-methyltransferase (2.1.1.64)
C12Y 201/01065	. . Licodione 2'-O-methyltransferase (2.1.1.65)
C12Y 201/01066	. . rRNA (adenosine-2'-O-)-methyltransferase (2.1.1.66)
C12Y 201/01067	. . Thiopurine S-methyltransferase (2.1.1.67)
C12Y 201/01068	. . Caffeate O-methyltransferase (2.1.1.68)
C12Y 201/01069	. . 5-Hydroxyfuranocoumarin 5-O-methyltransferase (2.1.1.69)
C12Y 201/0107	. . 8-Hydroxyfuranocoumarin 8-O-methyltransferase (2.1.1.70)
C12Y 201/01071	. . Phosphatidyl-N-methylethanolamine N-methyltransferase (2.1.1.71)
C12Y 201/01072	. . Site-specific DNA-methyltransferase (adenine-specific) (2.1.1.72)
C12Y 201/01074	. . Methylene-tetrahydrofolate--tRNA-(uracil54-C5)-methyltransferase (FADH2-oxidizing) (2.1.1.74)
C12Y 201/01075	. . Apigenin 4'-O-methyltransferase (2.1.1.75)
C12Y 201/01076	. . Quercetin 3-O-methyltransferase (2.1.1.76)



C12Y 201/01077	. . Protein-L-isoaspartate(D-aspartate) O-methyltransferase (2.1.1.77)
C12Y 201/01078	. . Isoorientin 3'-O-methyltransferase (2.1.1.78)
C12Y 201/01079	. . Cyclopropane-fatty-acyl-phospholipid synthase (2.1.1.79)
C12Y 201/0108	. . Protein-glutamate O-methyltransferase (2.1.1.80)
C12Y 201/01082	. . 3-Methylquercetin 7-O-methyltransferase (2.1.1.82)
C12Y 201/01083	. . 3,7-Dimethylquercetin 4'-O-methyltransferase (2.1.1.83)
C12Y 201/01084	. . Methylquercetagenin 6-O-methyltransferase (2.1.1.84)
C12Y 201/01085	. . Protein-histidine N-methyltransferase (2.1.1.85)
C12Y 201/01086	. . Tetrahydromethanopterin S-methyltransferase (2.1.1.86)
C12Y 201/01087	. . Pyridine N-methyltransferase (2.1.1.87)
C12Y 201/01088	. . 8-Hydroxyquercetin 8-O-methyltransferase (2.1.1.88)
C12Y 201/01089	. . Tetrahydrocolumbamine 2-O-methyltransferase (2.1.1.89)
C12Y 201/0109	. . Methanol—corrinoid protein Co-methyltransferase (2.1.1.90)
C12Y 201/01091	. . Isobutyraldoxime O-methyltransferase (2.1.1.91)
C12Y 201/01094	. . Tabersonine 16-O-methyltransferase (2.1.1.94)
C12Y 201/01095	. . Tocopherol O-methyltransferase (2.1.1.95)
C12Y 201/01096	. . Thioether S-methyltransferase (2.1.1.96)
C12Y 201/01097	. . 3-Hydroxyanthranilate 4-C-methyltransferase (2.1.1.97)
C12Y 201/01098	. . Diphtine synthase (2.1.1.98)
C12Y 201/01099	. . 3-Hydroxy-16-methoxy-2,3-dihydrotabersonine N-methyltransferase (2.1.1.99)
C12Y 201/011	. . Protein-S-isoprenylcysteine O-methyltransferase (2.1.1.100)
C12Y 201/01101	. . Macrocin O-methyltransferase (2.1.1.101)
C12Y 201/01102	. . Demethylmacrocin O-methyltransferase (2.1.1.102)
C12Y 201/01103	. . Phosphoethanolamine N-methyltransferase (2.1.1.103)
C12Y 201/01104	. . Caffeoyl-CoA O-methyltransferase (2.1.1.104)
C12Y 201/01105	. . N-Benzoyl-4-hydroxyanthranilate 4-O-methyltransferase (2.1.1.105)
C12Y 201/01106	. . Tryptophan 2-C-methyltransferase (2.1.1.106)
C12Y 201/01107	. . Uroporphyrinogen-III C-methyltransferase (2.1.1.107)
C12Y 201/01108	. . 6-Hydroxymellein O-methyltransferase (2.1.1.108)
C12Y 201/01109	. . Demethylsterigmatocystin 6-O-methyltransferase (2.1.1.109)
C12Y 201/0111	. . Sterigmatocystin 8-O-methyltransferase (2.1.1.110)
C12Y 201/01111	. . Anthranilate N-methyltransferase (2.1.1.111)
C12Y 201/01112	. . Glucuronoxylan 4-O-methyltransferase (2.1.1.112)
C12Y 201/01113	. . Site-specific DNA-methyltransferase (cytosine-N4-specific) (2.1.1.113)
C12Y 201/01114	. . Polyprenyldihydroxybenzoate methyltransferase (2.1.1.114)
C12Y 201/01115	. . (RS)-1-Benzyl-1,2,3,4-tetrahydroisoquinoline N-methyltransferase (2.1.1.115)
C12Y 201/01116	. . 3'-Hydroxy-N-methyl-(S)-coclaurine 4'-O-methyltransferase (2.1.1.116)
C12Y 201/01117	. . (S)-Scoulerine 9-O-methyltransferase (2.1.1.117)
C12Y 201/01118	. . Columbamine O-methyltransferase (2.1.1.118)
C12Y 201/01119	. . 10-Hydroxydihydrosanguinarine 10-O-methyltransferase (2.1.1.119)

C12Y 201/0112	. . 12-Hydroxydihydrochelirubine 12-O-methyltransferase (2.1.1.120)
C12Y 201/01121	. . 6-O-Methylnorlaudanoline 5'-O-methyltransferase (2.1.1.121)
C12Y 201/01122	. . (S)-Tetrahydroprotoberberine N-methyltransferase (2.1.1.122)
C12Y 201/01123	. . [Cytochrome c]-methionine S-methyltransferase (2.1.1.123)
C12Y 201/01124	. . [Cytochrome c]-arginine N-methyltransferase (2.1.1.124)
C12Y 201/01125	. . Histone-arginine N-methyltransferase (2.1.1.125)
C12Y 201/01126	. . [Myelin basic protein]-arginine N-methyltransferase (2.1.1.126)
C12Y 201/01127	. . [Ribulose-bisphosphate carboxylase]-lysine N-methyltransferase (2.1.1.127)
C12Y 201/01128	. . (RS)-Norcoclaurine 6-O-methyltransferase (2.1.1.128)
C12Y 201/01129	. . Inositol 4-methyltransferase (2.1.1.129)
C12Y 201/0113	. . Precorrin-2 C20-methyltransferase (2.1.1.130)
C12Y 201/01131	. . Precorrin-3B C17-methyltransferase (2.1.1.131)
C12Y 201/01132	. . Precorrin-6Y C5,15-methyltransferase (decarboxylating) (2.1.1.132)
C12Y 201/01133	. . Precorrin-4 C11-methyltransferase (2.1.1.133)
C12Y 201/01136	. . Chlorophenol O-methyltransferase (2.1.1.136)
C12Y 201/01137	. . Arsenite methyltransferase (2.1.1.137)
C12Y 201/01139	. . 3'-Demethylstaurosporine O-methyltransferase (2.1.1.139)
C12Y 201/0114	. . (S)-Coclaurine-N-methyltransferase (2.1.1.140)
C12Y 201/01141	. . Jasmonate O-methyltransferase (2.1.1.141)
C12Y 201/01142	. . Cycloartenol 24-C-methyltransferase (2.1.1.142), i.e. sterol C24-methyltransferase
C12Y 201/01143	. . 24-Methylenesterol C-methyltransferase (2.1.1.143), i.e. DELTA24-sterol methyltransferase
C12Y 201/01144	. . Trans-aconitate 2-methyltransferase (2.1.1.144)
C12Y 201/01145	. . Trans-aconitate 3-methyltransferase (2.1.1.145)
C12Y 201/01146	. . (Iso)eugenol O-methyltransferase (2.1.1.146)
C12Y 201/01147	. . Corydaline synthase (2.1.1.147)
C12Y 201/01148	. . Thymidylate synthase (FAD) (2.1.1.148)
C12Y 201/01149	. . Myricetin O-methyltransferase (2.1.1.149)
C12Y 201/0115	. . Isoflavone 7-O-methyltransferase (2.1.1.150)
C12Y 201/01151	. . Cobalt-factor II C20-methyltransferase (2.1.1.151)
C12Y 201/01152	. . Precorrin-6A synthase (deacetylating) (2.1.1.152)
C12Y 201/01153	. . Vitexin 2''-O-rhamnoside 7-O-methyltransferase (2.1.1.153)
C12Y 201/01154	. . Isoliquiritigenin 2'-O-methyltransferase (2.1.1.154)
C12Y 201/01155	. . Kaempferol 4'-O-methyltransferase (2.1.1.155)
C12Y 201/01156	. . Glycine/sarcosine N-methyltransferase (2.1.1.156)
C12Y 201/01157	. . Sarcosine/dimethylglycine N-methyltransferase (2.1.1.157)
C12Y 201/01158	. . 7-Methylxanthosine synthase (2.1.1.158)
C12Y 201/01159	. . Theobromine synthase (2.1.1.159)
C12Y 201/0116	. . Caffeine synthase (2.1.1.160)
C12Y 201/01161	. . Dimethylglycine N-methyltransferase (2.1.1.161)

C12Y 201/01162	. .	Glycine/sarcosine/dimethylglycine N-methyltransferase (2.1.1.162)
C12Y 201/01163	. .	Demethylmenaquinone methyltransferase (2.1.1.163)
C12Y 201/01164	. .	Demethylrebeccamycin-D-glucose O-methyltransferase (2.1.1.164)
C12Y 201/01165	. .	Methyl halide transferase (2.1.1.165)
C12Y 201/01166	. .	23S rRNA (uridine2552-2'-O-)-methyltransferase (2.1.1.166)
C12Y 201/01167	. .	27S pre-rRNA (guanosine2922-2'-O-)-methyltransferase (2.1.1.167)
C12Y 201/01168	. .	21S rRNA (uridine2791-2'-O-)-methyltransferase (2.1.1.168)
C12Y 201/01169	. .	Tricetin 3',4',5'-O-trimethyltransferase (2.1.1.169)
C12Y 201/0117	. .	16S rRNA (guanine527-N7)-methyltransferase (2.1.1.170)
C12Y 201/01171	. .	16S rRNA (guanine966-N2)-methyltransferase (2.1.1.171)
C12Y 201/01172	. .	16S rRNA (guanine1207-N2)-methyltransferase (2.1.1.172)
C12Y 201/01173	. .	23S rRNA (guanine2445-N2)-methyltransferase (2.1.1.173)
C12Y 201/01174	. .	23S rRNA (guanine1835-N2)-methyltransferase (2.1.1.174)
C12Y 201/01175	. .	Tricin synthase (2.1.1.175)
C12Y 201/01176	. .	16S rRNA (cytosine967-C5)-methyltransferase (2.1.1.176)
C12Y 201/01177	. .	23S rRNA (pseudouridine1915-N3)-methyltransferase (2.1.1.177)
C12Y 201/01178	. .	16S rRNA (cytosine1407-C5)-methyltransferase (2.1.1.178)
C12Y 201/01179	. .	16S rRNA (guanine1405-N7)-methyltransferase (2.1.1.179)
C12Y 201/0118	. .	16S rRNA (adenine1408-N1)-methyltransferase (2.1.1.180)
C12Y 201/01181	. .	23S rRNA (adenine1618-N6)-methyltransferase (2.1.1.181)
C12Y 201/01182	. .	16S rRNA (adenine1518-N6/adenine1519-N6)-dimethyltransferase (2.1.1.182)
C12Y 201/01183	. .	18S rRNA (adenine1779-N6/adenine1780-N6)-dimethyltransferase (2.1.1.183)
C12Y 201/01184	. .	23S rRNA (adenine2085-N6)-dimethyltransferase (2.1.1.184)
C12Y 201/01185	. .	23S rRNA (guanine2251-2'-O)-methyltransferase (2.1.1.185)
C12Y 201/01186	. .	23S rRNA (cytidine2498-2'-O)-methyltransferase (2.1.1.186)
C12Y 201/01187	. .	23S rRNA (guanine745-N1)-methyltransferase (2.1.1.187)
C12Y 201/01188	. .	23S rRNA (guanine748-N1)-methyltransferase (2.1.1.188)
C12Y 201/01189	. .	23S rRNA (uracil747-C5)-methyltransferase (2.1.1.189)
C12Y 201/0119	. .	23S rRNA (uracil1939-C5)-methyltransferase (2.1.1.190)
C12Y 201/01191	. .	23S rRNA (cytosine1962-C5)-methyltransferase (2.1.1.191)
C12Y 201/01192	. .	23S rRNA (adenine2503-C2)-methyltransferase (2.1.1.192)
C12Y 201/01193	. .	16S rRNA (uracil1498-N3)-methyltransferase (2.1.1.193)
C12Y 201/01194	. .	23S rRNA (adenine2503-C2,C8)-dimethyltransferase (2.1.1.194) ( <a href="#">C12Y 201/01192</a> , <a href="#">C12Y 201/01224</a> take precedence)
C12Y 201/01195	. .	Cobalt-precorrin-5B (C1)-methyltransferase (2.1.1.195)
C12Y 201/01196	. .	Cobalt-precorrin-7 (C15)-methyltransferase (decarboxylating) (2.1.1.196)
C12Y 201/01197	. .	Malonyl-CoA O-methyltransferase (2.1.1.197)
C12Y 201/01198	. .	16S rRNA (cytidine1402-2'-O)-methyltransferase (2.1.1.198)
C12Y 201/01199	. .	16S rRNA (cytosine1402-N4)-methyltransferase (2.1.1.199)
C12Y 201/012	. .	tRNA (cytidine32/uridine32-2'-O)-methyltransferase (2.1.1.200)

C12Y 201/01201	. . 2-Methoxy-6-polyprenyl-1,4-benzoquinol methylase (2.1.1.201)
C12Y 201/01202	. . Multisite-specific tRNA:(cytosine-C5)-methyltransferase (2.1.1.202)
C12Y 201/01203	. . tRNA (cytosine34-C5)-methyltransferase (2.1.1.203)
C12Y 201/01204	. . tRNA (cytosine38-C5)-methyltransferase (2.1.1.204)
C12Y 201/01205	. . tRNA (cytidine32/guanosine34-2'-O)-methyltransferase (2.1.1.205)
C12Y 201/01206	. . tRNA (cytidine56-2'-O)-methyltransferase (2.1.1.206)
C12Y 201/01207	. . tRNA (cytidine34-2'-O)-methyltransferase (2.1.1.207)
C12Y 201/01208	. . 23S rRNA (uridine2479-2'-O)-methyltransferase (2.1.1.208)
C12Y 201/01209	. . 23S rRNA (guanine2535-N1)-methyltransferase (2.1.1.209)
C12Y 201/0121	. . Demethylspheroidene O-methyltransferase (2.1.1.210)
C12Y 201/01211	. . tRNA(Ser) (uridine44-2'-O)-methyltransferase (2.1.1.211)
C12Y 201/01212	. . 2,7,4'-Trihydroxyisoflavanone 4'-O-methyltransferase (2.1.1.212)
C12Y 201/01213	. . tRNA (guanine10-N2)-dimethyltransferase (2.1.1.213)
C12Y 201/01214	. . tRNA (guanine10-N2)-methyltransferase (2.1.1.214)
C12Y 201/01215	. . tRNA (guanine26-N2/guanine27-N2)-dimethyltransferase (2.1.1.215)
C12Y 201/01216	. . tRNA (guanine26-N2)-dimethyltransferase (2.1.1.216)
C12Y 201/01217	. . tRNA (adenine22-N1)-methyltransferase (2.1.1.217)
C12Y 201/01218	. . tRNA (adenine9-N1)-methyltransferase (2.1.1.218)
C12Y 201/01219	. . tRNA (adenine57-N1/adenine58-N1)-methyltransferase (2.1.1.219)
C12Y 201/0122	. . tRNA (adenine58-N1)-methyltransferase (2.1.1.220)
C12Y 201/01221	. . tRNA (guanine9-N1)-methyltransferase (2.1.1.221)
C12Y 201/01222	. . 2-Polyprenyl-6-hydroxyphenyl methylase (2.1.1.222)
C12Y 201/01223	. . tRNA1(Val) (adenine37-N6)-methyltransferase (2.1.1.223)
C12Y 201/01224	. . 23S rRNA (adenine2503-C8)-methyltransferase (2.1.1.224)
C12Y 201/01225	. . tRNA:m4X modification enzyme (2.1.1.225)
C12Y 201/01226	. . 23S rRNA (cytidine1920-2'-O)-methyltransferase (2.1.1.226)
C12Y 201/01227	. . 16S rRNA (cytidine1409-2'-O)-methyltransferase (2.1.1.227)
C12Y 201/01228	. . tRNA (guanine37-N1)-methyltransferase (2.1.1.228)
C12Y 201/01229	. . tRNA (carboxymethyluridine34-5-O)-methyltransferase (2.1.1.229)
C12Y 201/0123	. . 23S rRNA (adenosine1067-2'-O)-methyltransferase (2.1.1.230)
C12Y 201/01231	. . Flavonoid 4'-O-methyltransferase (2.1.1.231)
C12Y 201/01232	. . Naringenin 7-O-methyltransferase (2.1.1.232)
C12Y 201/01233	. . [Phosphatase 2A protein]-leucine-carboxy methyltransferase (2.1.1.233)
C12Y 201/01234	. . dTDP-3-amino-3,4,6-trideoxy-alpha-D-glucopyranose N,N-dimethyltransferase (2.1.1.234)
C12Y 201/01235	. . dTDP-3-amino-3,6-dideoxy-alpha-D-glucopyranose N,N-dimethyltransferase (2.1.1.235)
C12Y 201/01236	. . dTDP-3-amino-3,6-dideoxy-alpha-D-galactopyranose N,N-dimethyltransferase (2.1.1.236)
C12Y 201/01237	. . Mycinamicin III 3"-O-methyltransferase (2.1.1.237)
C12Y 201/01238	. . Mycinamicin VI 2"-O-methyltransferase (2.1.1.238)

C12Y 201/01239	. . L-Olivosyl-oleandolide 3-O-methyltransferase (2.1.1.239)
C12Y 201/0124	. . Trans-resveratrol di-O-methyltransferase (2.1.1.240)
C12Y 201/01241	. . 2,4,7-Trihydroxy-1,4-benzoxazin-3-one-glucoside 7-O-methyltransferase (2.1.1.241)
C12Y 201/01242	. . 16S rRNA (guanine1516-N2)-methyltransferase (2.1.1.242)
C12Y 201/01243	. . 2-Ketoarginine methyltransferase (2.1.1.243)
C12Y 201/01244	. . Protein N-terminal methyltransferase (2.1.1.244)
C12Y 201/01245	. . 5-Methyltetrahydrosarcinapterin:corrinoide/iron-sulfur protein Co-methyltransferase (2.1.1.245)
C12Y 201/01246	. . [Methyl-Co(III) methanol-specific corrinoide protein]:coenzyme M methyltransferase (2.1.1.246)
C12Y 201/01247	. . [Methyl-Co(III) methylamine-specific corrinoide protein]:coenzyme M methyltransferase (2.1.1.247)
C12Y 201/01248	. . Methylamine—corrinoide protein Co-methyltransferase (2.1.1.248)
C12Y 201/01249	. . Dimethylamine—corrinoide protein Co-methyltransferase (2.1.1.249)
C12Y 201/0125	. . Trimethylamine—corrinoide protein Co-methyltransferase (2.1.1.250)
C12Y 201/01251	. . Methylated-thiol—coenzyme M methyltransferase (2.1.1.251)
C12Y 201/01252	. . Tetramethylammonium—corrinoide protein Co-methyltransferase (2.1.1.252)
C12Y 201/01253	. . [Methyl-Co(III) tetramethylammonium-specific corrinoide protein]:coenzyme M methyltransferase (2.1.1.253)
C12Y 201/01254	. . Erythromycin 3"-O-methyltransferase (2.1.1.254)
C12Y 201/01255	. . Geranyl diphosphate 2-C-methyltransferase (2.1.1.255)
C12Y 201/01256	. . tRNA (guanine6-N2)-methyltransferase (2.1.1.256)
C12Y 201/01257	. . tRNA (pseudouridine54-N1)-methyltransferase (2.1.1.257)
C12Y 201/01258	. . 5-Methyltetrahydrofolate:corrinoide/iron-sulfur protein Co-methyltransferase (2.1.1.258)
C12Y 201/01259	. . [Fructose-bisphosphate aldolase]-lysine N-methyltransferase (2.1.1.259)
C12Y 201/0126	. . rRNA small subunit pseudouridine methyltransferase Nep1 (2.1.1.260)
C12Y 201/01261	. . 4-Dimethylallyltryptophan N-methyltransferase (2.1.1.261)
C12Y 201/01262	. . Squalene methyltransferase (2.1.1.262)
C12Y 201/01263	. . Botryococcene C-methyltransferase (2.1.1.263)
C12Y 201/01264	. . 23S rRNA (guanine2069-N7)-methyltransferase (2.1.1.264)
C12Y 201/01265	. . Tellurite methyltransferase (2.1.1.265)
C12Y 201/02	. Hydroxymethyl-, formyl- and related transferases (2.1.2)
C12Y 201/02001	. . Glycine hydroxymethyltransferase (2.1.2.1)
C12Y 201/02002	. . Phosphoribosylglycinamide formyltransferase (2.1.2.2)
C12Y 201/02003	. . Phosphoribosylaminoimidazolecarboxamide formyltransferase (2.1.2.3), i.e. AICAR formyltransferase
C12Y 201/02004	. . Glycine formimidoyltransferase (2.1.2.4)
C12Y 201/02005	. . Glutamate formimidoyltransferase (2.1.2.5)
C12Y 201/02007	. . D-Alanine 2-hydroxymethyltransferase (2.1.2.7)
C12Y 201/02008	. . Deoxycytidylate 5-hydroxymethyltransferase (2.1.2.8)

C12Y 201/02009	. . Methionyl-tRNA formyltransferase (2.1.2.9)
C12Y 201/0201	. . Aminomethyltransferase (2.1.2.10)
C12Y 201/02011	. . 3-Methyl-2-oxobutanoate hydroxymethyltransferase (2.1.2.11), i.e. ketopantoate hydroxymethyltransferase
C12Y 201/02013	. . UDP-4-amino-4-deoxy-L-arabinose formyltransferase (2.1.2.13)
C12Y 201/03	. Carboxy- and carbamoyltransferases (2.1.3)
C12Y 201/03001	. . Methylmalonyl-CoA carboxytransferase (2.1.3.1)
C12Y 201/03002	. . Aspartate carbamoyltransferase (2.1.3.2)
C12Y 201/03003	. . Ornithine carbamoyltransferase (2.1.3.3)
C12Y 201/03005	. . Oxamate carbamoyltransferase (2.1.3.5)
C12Y 201/03006	. . Putrescine carbamoyltransferase (2.1.3.6)
C12Y 201/03007	. . 3-Hydroxymethylcephem carbamoyltransferase (2.1.3.7)
C12Y 201/03008	. . Lysine carbamoyltransferase (2.1.3.8)
C12Y 201/03009	. . N-Acetylornithine carbamoyltransferase (2.1.3.9)
C12Y 201/0301	. . Malonyl-S-ACP:biotin-protein carboxyltransferase (2.1.3.10)
C12Y 201/03011	. . N-Succinylornithine carbamoyltransferase (2.1.3.11)
C12Y 201/04	. Amidinotransferases (2.1.4)
C12Y 201/04001	. . Glycine amidinotransferase (2.1.4.1)
C12Y 201/04002	. . Scyllo-inosamine-4-phosphate amidinotransferase (2.1.4.2)

**C12Y 202/00****Transferases transferring aldehyde or ketonic groups (2.2)**

C12Y 202/01	. Transketolases and transaldolases (2.2.1)
C12Y 202/01001	. . Transketolase (2.2.1.1)
C12Y 202/01002	. . Transaldolase (2.2.1.2)
C12Y 202/01003	. . Formaldehyde transketolase (2.2.1.3)
C12Y 202/01004	. . Acetoin--ribose-5-phosphate transaldolase (2.2.1.4)
C12Y 202/01005	. . 2-Hydroxy-3-oxoadipate synthase (2.2.1.5)
C12Y 202/01006	. . Acetolactate synthase (2.2.1.6)
C12Y 202/01007	. . 1-Deoxy-D-xylulose-5-phosphate synthase (2.2.1.7)
C12Y 202/01008	. . Fluorothreonine transaldolase (2.2.1.8)
C12Y 202/01009	. . 2-Succinyl-5-enolpyruvyl-6-hydroxy-3-cyclohexene-1-carboxylic-acid synthase (2.2.1.9)
C12Y 202/0101	. . 2-Amino-3,7-dideoxy-D-threo-hept-6-ulosonate synthase (2.2.1.10)
C12Y 202/01011	. . 6-Deoxy-5-ketofructose 1-phosphate synthase (2.2.1.11)

**C12Y 203/00****Acyltransferases (2.3)**

C12Y 203/01	. transferring groups other than amino-acyl groups (2.3.1)
C12Y 203/01001	. . Amino-acid N-acetyltransferase (2.3.1.1)
C12Y 203/01002	. . Imidazole N-acetyltransferase (2.3.1.2)
C12Y 203/01003	. . Glucosamine N-acetyltransferase (2.3.1.3)
C12Y 203/01004	. . Glucosamine-phosphate N-acetyltransferase (2.3.1.4)



C12Y 203/01005	. . Arylamine N-acetyltransferase (2.3.1.5)
C12Y 203/01006	. . Choline O-acetyltransferase (2.3.1.6)
C12Y 203/01007	. . Carnitine O-acetyltransferase (2.3.1.7)
C12Y 203/01008	. . Phosphate acetyltransferase (2.3.1.8)
C12Y 203/01009	. . Acetyl-CoA C-acetyltransferase (2.3.1.9)
C12Y 203/0101	. . Hydrogen-sulfide S-acetyltransferase (2.3.1.10)
C12Y 203/01011	. . Thioethanolamine S-acetyltransferase (2.3.1.11)
C12Y 203/01012	. . Dihydrolipoyllysine-residue acetyltransferase (2.3.1.12)
C12Y 203/01013	. . Glycine N-acyltransferase (2.3.1.13)
C12Y 203/01014	. . Glutamine N-phenylacetyltransferase (2.3.1.14)
C12Y 203/01015	. . Glycerol-3-phosphate O-acyltransferase (2.3.1.15)
C12Y 203/01016	. . Acetyl-CoA C-acyltransferase (2.3.1.16)
C12Y 203/01017	. . Aspartate N-acetyltransferase (2.3.1.17)
C12Y 203/01018	. . Galactoside O-acetyltransferase (2.3.1.18)
C12Y 203/01019	. . Phosphate butyryltransferase (2.3.1.19)
C12Y 203/0102	. . Diacylglycerol O-acyltransferase (2.3.1.20)
C12Y 203/01021	. . Carnitine O-palmitoyltransferase (2.3.1.21)
C12Y 203/01022	. . 2-Acylglycerol O-acyltransferase (2.3.1.22)
C12Y 203/01023	. . 1-Acylglycerophosphocholine O-acyltransferase (2.3.1.23), i.e. lysophosphatidylcholine acyltransferase or LPCAT
C12Y 203/01024	. . Sphingosine N-acyltransferase (2.3.1.24)
C12Y 203/01025	. . Plasmalogen synthase (2.3.1.25)
C12Y 203/01026	. . Sterol O-acyltransferase (2.3.1.26)
C12Y 203/01027	. . Cortisol O-acetyltransferase (2.3.1.27)
C12Y 203/01028	. . Chloramphenicol O-acetyltransferase (2.3.1.28)
C12Y 203/01029	. . Glycine C-acetyltransferase (2.3.1.29)
C12Y 203/0103	. . Serine O-acetyltransferase (2.3.1.30)
C12Y 203/01031	. . Homoserine O-acetyltransferase (2.3.1.31)
C12Y 203/01032	. . Lysine N-acetyltransferase (2.3.1.32)
C12Y 203/01033	. . Histidine N-acetyltransferase (2.3.1.33)
C12Y 203/01034	. . D-Tryptophan N-acetyltransferase (2.3.1.34)
C12Y 203/01035	. . Glutamate N-acetyltransferase (2.3.1.35)
C12Y 203/01036	. . D-Amino-acid N-acetyltransferase (2.3.1.36)
C12Y 203/01037	. . 5-Aminolevulinate synthase (2.3.1.37)
C12Y 203/01038	. . [Acyl-carrier-protein] S-acetyltransferase (2.3.1.38)
C12Y 203/01039	. . [Acyl-carrier-protein] S-malonyltransferase (2.3.1.39)
C12Y 203/0104	. . Acyl-[acyl-carrier-protein]-phospholipid O-acyltransferase (2.3.1.40)
C12Y 203/01041	. . Beta-ketoacyl-acyl-carrier-protein synthase I (2.3.1.41)
C12Y 203/01042	. . Glycerone-phosphate O-acyltransferase (2.3.1.42)

C12Y 203/01043	. .	Phosphatidylcholine-sterol O-acyltransferase (2.3.1.43), i.e. lecithin-cholesterol acyltransferase or LCAT
C12Y 203/01044	. .	Acetyl-CoA:N-acetylneuraminate 4-O-acetyltransferase (2.3.1.44)
C12Y 203/01045	. .	N-Acetylneuraminate 7-O (or 9-O)-acetyltransferase (2.3.1.45)
C12Y 203/01046	. .	Homoserine O-succinyltransferase (2.3.1.46)
C12Y 203/01047	. .	8-Amino-7-oxononanoate synthase (2.3.1.47)
C12Y 203/01048	. .	Histone acetyltransferase (2.3.1.48)
C12Y 203/01049	. .	Deacetyl-[citrate-(pro-3S)-lyase] S-acetyltransferase (2.3.1.49)
C12Y 203/0105	. .	Serine C-palmitoyltransferase (2.3.1.50)
C12Y 203/01051	. .	1-Acylglycerol-3-phosphate O-acyltransferase (2.3.1.51)
C12Y 203/01052	. .	2-Acylglycerol-3-phosphate O-acyltransferase (2.3.1.52)
C12Y 203/01053	. .	Phenylalanine N-acetyltransferase (2.3.1.53)
C12Y 203/01054	. .	Formate C-acetyltransferase (2.3.1.54), i.e. pyruvate formate-lyase or PFL
C12Y 203/01056	. .	Aromatic-hydroxylamine O-acetyltransferase (2.3.1.56)
C12Y 203/01057	. .	Diamine N-acetyltransferase (2.3.1.57)
C12Y 203/01058	. .	2,3-Diaminopropionate N-oxalyltransferase (2.3.1.58)
C12Y 203/01059	. .	Gentamicin 2'-N-acetyltransferase (2.3.1.59)
C12Y 203/0106	. .	Gentamicin 3'-N-acetyltransferase (2.3.1.60)
C12Y 203/01061	. .	Dihydrolipoyllysine-residue succinyltransferase (2.3.1.61)
C12Y 203/01062	. .	2-Acylglycerophosphocholine O-acyltransferase (2.3.1.62)
C12Y 203/01063	. .	1-Alkylglycerophosphocholine O-acyltransferase (2.3.1.63)
C12Y 203/01064	. .	Agmatine N4-coumaroyltransferase (2.3.1.64)
C12Y 203/01065	. .	Bile acid-CoA:amino acid N-acyltransferase (2.3.1.65)
C12Y 203/01066	. .	Leucine N-acetyltransferase (2.3.1.66)
C12Y 203/01067	. .	1-Alkylglycerophosphocholine O-acetyltransferase (2.3.1.67)
C12Y 203/01068	. .	Glutamine N-acyltransferase (2.3.1.68)
C12Y 203/01069	. .	Monoterpenol O-acetyltransferase (2.3.1.69)
C12Y 203/01071	. .	Glycine N-benzoyltransferase (2.3.1.71)
C12Y 203/01072	. .	Indoleacetylglucose--inositol O-acyltransferase (2.3.1.72)
C12Y 203/01073	. .	Diacylglycerol-sterol O-acyltransferase (2.3.1.73)
C12Y 203/01074	. .	Naringenin-chalcone synthase (2.3.1.74), i.e. chalcone synthase
C12Y 203/01075	. .	Long-chain-alcohol O-fatty-acyltransferase (2.3.1.75)
C12Y 203/01076	. .	Retinol O-fatty-acyltransferase (2.3.1.76)
C12Y 203/01077	. .	Triacylglycerol--sterol O-acyltransferase (2.3.1.77)
C12Y 203/01078	. .	Heparan-alpha-glucosaminide N-acetyltransferase (2.3.1.78)
C12Y 203/01079	. .	Maltose O-acetyltransferase (2.3.1.79)
C12Y 203/0108	. .	Cysteine-S-conjugate N-acetyltransferase (2.3.1.80)
C12Y 203/01081	. .	Aminoglycoside N3'-acetyltransferase (2.3.1.81)
C12Y 203/01082	. .	Aminoglycoside N6'-acetyltransferase (2.3.1.82)
C12Y 203/01083	. .	Phosphatidylcholine--dolichol O-acyltransferase (2.3.1.83)

C12Y 203/01084	. . Alcohol O-acetyltransferase (2.3.1.84)
C12Y 203/01085	. . Fatty-acid synthase (2.3.1.85)
C12Y 203/01086	. . Fatty-acyl-CoA synthase (2.3.1.86)
C12Y 203/01087	. . Aralkylamine N-acetyltransferase (2.3.1.87)
C12Y 203/01088	. . Peptide alpha-N-acetyltransferase (2.3.1.88)
C12Y 203/01089	. . Tetrahydrodipicolinate N-acetyltransferase (2.3.1.89)
C12Y 203/0109	. . Beta-glucogallin O-galloyltransferase (2.3.1.90)
C12Y 203/01091	. . Sinapoylglucose--choline O-sinapoyltransferase (2.3.1.91)
C12Y 203/01092	. . Sinapoylglucose--malate O-sinapoyltransferase (2.3.1.92)
C12Y 203/01093	. . 13-Hydroxylupanine O-tigloyltransferase (2.3.1.93)
C12Y 203/01094	. . 6-Deoxyerythronolide-B synthase (2.3.1.94)
C12Y 203/01095	. . Trihydroxystilbene synthase (2.3.1.95)
C12Y 203/01096	. . Glycoprotein N-palmitoyltransferase (2.3.1.96)
C12Y 203/01097	. . Glycylpeptide N-tetradecanoyltransferase (2.3.1.97)
C12Y 203/01098	. . Chlorogenate--glucarate O-hydroxycinnamoyltransferase (2.3.1.98)
C12Y 203/01099	. . Quinate O-hydroxycinnamoyltransferase (2.3.1.99)
C12Y 203/011	. . [Myelin-proteolipid] O-palmitoyltransferase (2.3.1.100)
C12Y 203/01101	. . Formylmethanofuran--tetrahydromethanopterin N-formyltransferase (2.3.1.101)
C12Y 203/01102	. . N6-Hydroxylysine O-acetyltransferase (2.3.1.102)
C12Y 203/01103	. . Sinapoylglucose--sinapoylglucose O-sinapoyltransferase (2.3.1.103)
C12Y 203/01104	. . 1-Alkenylglycerophosphocholine O-acyltransferase (2.3.1.104)
C12Y 203/01105	. . Alkylglycerophosphate 2-O-acetyltransferase (2.3.1.105)
C12Y 203/01106	. . Tartronate O-hydroxycinnamoyltransferase (2.3.1.106)
C12Y 203/01107	. . Deacetylindoline O-acetyltransferase (2.3.1.107)
C12Y 203/01108	. . Alpha-tubulin N-acetyltransferase (2.3.1.108)
C12Y 203/01109	. . Arginine N-succinyltransferase (2.3.1.109)
C12Y 203/0111	. . Tyramine N-feruloyltransferase (2.3.1.110)
C12Y 203/01111	. . Mycocerosate synthase (2.3.1.111)
C12Y 203/01112	. . D-Tryptophan N-malonyltransferase (2.3.1.112)
C12Y 203/01113	. . Anthranilate N-malonyltransferase (2.3.1.113)
C12Y 203/01114	. . 3,4-Dichloroaniline N-malonyltransferase (2.3.1.114)
C12Y 203/01115	. . Isoflavone-7-O-beta-glucoside 6"-O-malonyltransferase (2.3.1.115)
C12Y 203/01116	. . Flavonol-3-O-beta-glucoside O-malonyltransferase (2.3.1.116)
C12Y 203/01117	. . 2,3,4,5-Tetrahydropyridine-2,6-dicarboxylate N-succinyltransferase (2.3.1.117)
C12Y 203/01118	. . N-Hydroxyarylamine O-acetyltransferase (2.3.1.118)
C12Y 203/01119	. . Icosanoyl-CoA synthase (2.3.1.119)
C12Y 203/01121	. . 1-Alkenylglycerophosphoethanolamine O-acyltransferase (2.3.1.121)
C12Y 203/01122	. . Trehalose O-mycolyltransferase (2.3.1.122)
C12Y 203/01123	. . Dolichol O-acyltransferase (2.3.1.123)
C12Y 203/01125	. . 1-Alkyl-2-acetyl glycerol O-acyltransferase (2.3.1.125)

C12Y 203/01126	. . Isocitrate O-dihydroxycinnamoyltransferase (2.3.1.126)
C12Y 203/01127	. . Ornithine N-benzoyltransferase (2.3.1.127)
C12Y 203/01128	. . Ribosomal-protein-alanine N-acetyltransferase (2.3.1.128)
C12Y 203/01129	. . Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase (2.3.1.129)
C12Y 203/0113	. . Galactarate O-hydroxycinnamoyltransferase (2.3.1.130)
C12Y 203/01131	. . Glucarate O-hydroxycinnamoyltransferase (2.3.1.131)
C12Y 203/01132	. . Glucarolactone O-hydroxycinnamoyltransferase (2.3.1.132)
C12Y 203/01133	. . Shikimate O-hydroxycinnamoyltransferase (2.3.1.133)
C12Y 203/01134	. . Galactolipid O-acyltransferase (2.3.1.134)
C12Y 203/01135	. . Phosphatidylcholine--retinol O-acyltransferase (2.3.1.135)
C12Y 203/01136	. . Polysialic-acid O-acetyltransferase (2.3.1.136)
C12Y 203/01137	. . Carnitine O-octanoyltransferase (2.3.1.137)
C12Y 203/01138	. . Putrescine N-hydroxycinnamoyltransferase (2.3.1.138)
C12Y 203/01139	. . Ecdysone O-acyltransferase (2.3.1.139)
C12Y 203/0114	. . Rosmarinate synthase (2.3.1.140)
C12Y 203/01141	. . Galactosylacylglycerol O-acyltransferase (2.3.1.141)
C12Y 203/01142	. . Glycoprotein O-fatty-acyltransferase (2.3.1.142)
C12Y 203/01143	. . Beta-glucogallin--tetrakisgalloylglucose O-galloyltransferase (2.3.1.143)
C12Y 203/01144	. . Anthranilate N-benzoyltransferase (2.3.1.144)
C12Y 203/01145	. . Piperidine N-piperoyltransferase (2.3.1.145)
C12Y 203/01146	. . Pinosylvin synthase (2.3.1.146)
C12Y 203/01147	. . Glycerophospholipid arachidonoyl-transferase (CoA-independent) (2.3.1.147)
C12Y 203/01148	. . Glycerophospholipid acyltransferase (CoA-dependent) (2.3.1.148)
C12Y 203/01149	. . Platelet-activating factor acetyltransferase (2.3.1.149)
C12Y 203/0115	. . Salutaridinol 7-O-acetyltransferase (2.3.1.150)
C12Y 203/01151	. . Benzophenone synthase (2.3.1.151)
C12Y 203/01152	. . Alcohol O-cinnamoyltransferase (2.3.1.152)
C12Y 203/01153	. . Anthocyanin 5-aromatic acyltransferase (2.3.1.153)
C12Y 203/01154	. . Propionyl-CoA C(2)-trimethyltridecanoyltransferase (2.3.1.154)
C12Y 203/01155	. . Acetyl-CoA C-myristoyltransferase (2.3.1.155)
C12Y 203/01156	. . Phloroisovalerophenone synthase (2.3.1.156)
C12Y 203/01157	. . Glucosamine-1-phosphate N-acetyltransferase (2.3.1.157)
C12Y 203/01158	. . Phospholipid:diacylglycerol acyltransferase (2.3.1.158)
C12Y 203/01159	. . Acridone synthase (2.3.1.159)
C12Y 203/0116	. . Vinorine synthase (2.3.1.160)
C12Y 203/01161	. . Lovastatin nonaketide synthase (2.3.1.161)
C12Y 203/01162	. . Taxadien-5-alpha-ol O-acetyltransferase (2.3.1.162)
C12Y 203/01163	. . 10-Hydroxytaxane O-acetyltransferase (2.3.1.163)
C12Y 203/01164	. . Isopenicillin-N N-acyltransferase (2.3.1.164)
C12Y 203/01165	. . 6-Methylsalicylic acid synthase (2.3.1.165)

C12Y 203/01166	. . 2-Alpha-hydroxytaxane 2-O-benzoyltransferase (2.3.1.166)
C12Y 203/01167	. . 10-Deacetylbaecatin III 10-O-acetyltransferase (2.3.1.167)
C12Y 203/01168	. . Dihydrolipoyllysine-residue (2-methylpropanoyl)transferase (2.3.1.168)
C12Y 203/01169	. . CO-Methylating acetyl-CoA synthase (2.3.1.169)
C12Y 203/0117	. . 6'-Deoxychalcone synthase (2.3.1.170)
C12Y 203/01171	. . Anthocyanin 6''-O-malonyltransferase (2.3.1.171)
C12Y 203/01172	. . Anthocyanin 5-O-glucoside 6'''-O-malonyltransferase (2.3.1.172)
C12Y 203/01173	. . Flavonol-3-O-triglucoside O-coumaroyltransferase (2.3.1.173)
C12Y 203/01174	. . 3-Oxadipyl-CoA thiolase (2.3.1.174)
C12Y 203/01175	. . Deacetylcephalosporin-C acetyltransferase (2.3.1.175)
C12Y 203/01176	. . Propanoyl-CoA C-acyltransferase (2.3.1.176)
C12Y 203/01177	. . 3,5-Dihydroxybiphenyl synthase (2.3.1.177)
C12Y 203/01178	. . Diaminobutyrate acetyltransferase (2.3.1.178)
C12Y 203/01179	. . Beta-ketoacyl-acyl-carrier-protein synthase II (2.3.1.179)
C12Y 203/0118	. . Beta-ketoacyl-acyl-carrier-protein synthase III (2.3.1.180)
C12Y 203/01181	. . Lipoyl(octanoyl) transferase (2.3.1.181)
C12Y 203/01182	. . (R)-Citramalate synthase (2.3.1.182)
C12Y 203/01183	. . Phosphinothricin acetyltransferase (2.3.1.183)
C12Y 203/01184	. . Acyl-homoserine-lactone synthase (2.3.1.184)
C12Y 203/01185	. . Tropine acyltransferase (2.3.1.185)
C12Y 203/01186	. . Pseudotropine acyltransferase (2.3.1.186)
C12Y 203/01187	. . Acetyl-S-ACP:malonate ACP transferase (2.3.1.187)
C12Y 203/01188	. . Omega-hydroxypalmitate O-feruloyl transferase (2.3.1.188)
C12Y 203/01189	. . Mycothiol synthase (2.3.1.189)
C12Y 203/0119	. . Acetoin dehydrogenase (2.3.1.190)
C12Y 203/01191	. . UDP-3-O-(3-hydroxymyristoyl)glucosamine N-acyltransferase (2.3.1.191)
C12Y 203/01192	. . Glycine N-phenylacetyltransferase (2.3.1.192)
C12Y 203/01193	. . tRNA(Met) cytidine acetyltransferase (2.3.1.193)
C12Y 203/01194	. . Acetoacetyl-CoA synthase (2.3.1.194)
C12Y 203/01195	. . (Z)-3-Hexen-1-ol acetyltransferase (2.3.1.195)
C12Y 203/01196	. . Benzyl alcohol O-benzoyltransferase (2.3.1.196)
C12Y 203/01197	. . dTDP-3-amino-3,6-dideoxy-alpha-D-galactopyranose 3-N-acetyltransferase (2.3.1.197)
C12Y 203/01198	. . Glycerol-3-phosphate 2-O-acyltransferase (2.3.1.198)
C12Y 203/01199	. . Very-long-chain 3-oxoacyl-CoA synthase (2.3.1.199)
C12Y 203/012	. . Lipoyl amidotransferase (2.3.1.200)
C12Y 203/01201	. . UDP-2-acetamido-3-amino-2,3-dideoxy-glucuronate N-acetyltransferase (2.3.1.201)
C12Y 203/01202	. . UDP-4-amino-4,6-dideoxy-N-acetyl-beta-L-altrosamine N-acetyltransferase (2.3.1.202)

C12Y 203/01203	. . UDP-4-amino-4,6-dideoxy-N-acetyl-alpha-D-glucosamine N-acetyltransferase (2.3.1.203)
C12Y 203/01204	. . Octanoyl-[GcvH]:protein N-octanoyltransferase (2.3.1.204)
C12Y 203/01205	. . Fumigaclavine B O-acetyltransferase (2.3.1.205)
C12Y 203/01206	. . 3,5,7-Trioxododecanoyl-CoA synthase (2.3.1.206)
C12Y 203/01207	. . Beta-ketodecanoyl-[acyl-carrier-protein] synthase (2.3.1.207)
C12Y 203/01208	. . 4-Hydroxycoumarin synthase (2.3.1.208)
C12Y 203/01209	. . dTDP-4-amino-4,6-dideoxy-D-glucose acyltransferase (2.3.1.209)
C12Y 203/0121	. . dTDP-4-amino-4,6-dideoxy-D-galactose acyltransferase (2.3.1.210)
C12Y 203/02	. Aminoacyltransferases (2.3.2)
C12Y 203/02001	. . D-Glutamyltransferase (2.3.2.1)
C12Y 203/02002	. . Gamma-glutamyltransferase (2.3.2.2)
C12Y 203/02003	. . Lysyltransferase (2.3.2.3)
C12Y 203/02004	. . Gamma-glutamylcyclotransferase (2.3.2.4)
C12Y 203/02005	. . Glutaminyl-peptide cyclotransferase (2.3.2.5)
C12Y 203/02006	. . Leucyltransferase (2.3.2.6)
C12Y 203/02007	. . Aspartyltransferase (2.3.2.7)
C12Y 203/02008	. . Arginyltransferase (2.3.2.8)
C12Y 203/02009	. . Agaritine gamma-glutamyltransferase (2.3.2.9)
C12Y 203/0201	. . UDP-N-acetylmuramoylpentapeptide-lysine N6-alanyltransferase (2.3.2.10)
C12Y 203/02011	. . Alanylphosphatidylglycerol synthase (2.3.2.11)
C12Y 203/02012	. . Peptidyltransferase (2.3.2.12)
C12Y 203/02013	. . Protein-glutamine gamma-glutamyltransferase (2.3.2.13), i.e. transglutaminase or factor XIII
C12Y 203/02014	. . D-Alanine gamma-glutamyltransferase (2.3.2.14)
C12Y 203/02015	. . Glutathione gamma-glutamylcysteinyltransferase (2.3.2.15), i.e. phytochelatase synthase
C12Y 203/02016	. . Lipid II:glycine glycytransferase (2.3.2.16)
C12Y 203/02017	. . N-Acetylmuramoyl-L-alanyl-D-glutamyl-L-lysyl-(N6-glycyl)-D-alanyl-D-alanine-diphosphoundecaprenyl-N-acetylglucosamine:glycin (2.3.2.17)
C12Y 203/02018	. . N-Acetylmuramoyl-L-alanyl-D-glutamyl-L-lysyl-(N6-triglycine)-D-alanyl-D-alanine-diphosphoundecaprenyl-N-acetylglucosamine:glycin (2.3.2.18)
C12Y 203/02019	. . Ribostamycin:4-(gamma-L-glutamylamino)-(S)-2-hydroxybutanoyl-[BtrI acyl-carrier protein] 4-(gamma-L-glutamylamino)-(S)-2-hydroxybutanoate transferase (2.3.2.19)
C12Y 203/03	. Acyl groups converted into alkyl on transfer (2.3.3)
C12Y 203/03001	. . Citrate (Si)-synthase (2.3.3.1)
C12Y 203/03002	. . Decylcitrate synthase (2.3.3.2)
C12Y 203/03003	. . Citrate (Re)-synthase (2.3.3.3)
C12Y 203/03004	. . Decylhomocitrate synthase (2.3.3.4)
C12Y 203/03005	. . 2-Methylcitrate synthase (2.3.3.5)
C12Y 203/03006	. . 2-Ethylmalate synthase (2.3.3.6)
C12Y 203/03007	. . 3-Ethylmalate synthase (2.3.3.7)



C12Y 203/03008	. . ATP citrate synthase (2.3.3.8)
C12Y 203/03009	. . Malate synthase (2.3.3.9)
C12Y 203/0301	. . Hydroxymethylglutaryl-CoA synthase (2.3.3.10)
C12Y 203/03011	. . 2-Hydroxyglutarate synthase (2.3.3.11)
C12Y 203/03012	. . 3-Propylmalate synthase (2.3.3.12)
C12Y 203/03013	. . 2-Isopropylmalate synthase (2.3.3.13)
C12Y 203/03014	. . Homocitrate synthase (2.3.3.14)
C12Y 203/03015	. . Sulfoacetaldehyde acetyltransferase (2.3.3.15)

**C12Y 204/00****Glycosyltransferases (2.4)**

C12Y 204/01	. Hexosyltransferases (2.4.1)
C12Y 204/01001	. . Phosphorylase (2.4.1.1)
C12Y 204/01002	. . Dextrin dextranase (2.4.1.2)
C12Y 204/01004	. . Amylosucrase (2.4.1.4)
C12Y 204/01005	. . Dextransucrase (2.4.1.5)
C12Y 204/01007	. . Sucrose phosphorylase (2.4.1.7)
C12Y 204/01008	. . Maltose phosphorylase (2.4.1.8)
C12Y 204/01009	. . Inulosucrase (2.4.1.9)
C12Y 204/0101	. . Levansucrase (2.4.1.10)
C12Y 204/01011	. . Glycogen(starch) synthase (2.4.1.11)
C12Y 204/01012	. . Cellulose synthase (UDP-forming) (2.4.1.12)
C12Y 204/01013	. . Sucrose synthase (2.4.1.13)
C12Y 204/01014	. . Sucrose-phosphate synthase (2.4.1.14)
C12Y 204/01015	. . Alpha,alpha-trehalose-phosphate synthase (UDP-forming) (2.4.1.15)
C12Y 204/01016	. . Chitin synthase (2.4.1.16)
C12Y 204/01017	. . Glucuronosyltransferase (2.4.1.17)
C12Y 204/01018	. . 1,4-Alpha-glucan branching enzyme (2.4.1.18), i.e. glucan branching enzyme
C12Y 204/01019	. . Cyclomaltodextrin glucanotransferase (2.4.1.19)
C12Y 204/0102	. . Cellobiose phosphorylase (2.4.1.20)
C12Y 204/01021	. . Starch synthase (2.4.1.21)
C12Y 204/01022	. . Lactose synthase (2.4.1.22)
C12Y 204/01023	. . Sphingosine beta-galactosyltransferase (2.4.1.23)
C12Y 204/01024	. . 1,4-Alpha-glucan 6-alpha-glucosyltransferase (2.4.1.24)
C12Y 204/01025	. . 4-Alpha-glucanotransferase (2.4.1.25)
C12Y 204/01026	. . DNA alpha-glucosyltransferase (2.4.1.26)
C12Y 204/01027	. . DNA beta-glucosyltransferase (2.4.1.27)
C12Y 204/01028	. . Glucosyl-DNA beta-glucosyltransferase (2.4.1.28)
C12Y 204/01029	. . Cellulose synthase (GDP-forming) (2.4.1.29)
C12Y 204/0103	. . 1,3-Beta-oligoglucan phosphorylase (2.4.1.30)
C12Y 204/01031	. . Laminaribiose phosphorylase (2.4.1.31)

C12Y 204/01032	. . Glucomannan 4-beta-mannosyltransferase (2.4.1.32)
C12Y 204/01033	. . Alginate synthase (2.4.1.33)
C12Y 204/01034	. . 1,3-Beta-glucan synthase (2.4.1.34)
C12Y 204/01035	. . Phenol beta-glucosyltransferase (2.4.1.35)
C12Y 204/01036	. . Alpha,alpha-trehalose-phosphate synthase (GDP-forming) (2.4.1.36)
C12Y 204/01037	. . Fucosylgalactoside 3-alpha-galactosyltransferase (2.4.1.37)
C12Y 204/01038	. . Beta-N-acetylglucosaminylglycopeptide beta-1,4-galactosyltransferase (2.4.1.38)
C12Y 204/01039	. . Steroid N-acetylglucosaminyltransferase (2.4.1.39)
C12Y 204/0104	. . Glycoprotein-fucosylgalactoside alpha-N-acetylglactosaminyltransferase (2.4.1.40)
C12Y 204/01041	. . Polypeptide N-acetylglactosaminyltransferase (2.4.1.41)
C12Y 204/01043	. . Polygalacturonate 4-alpha-galacturonosyltransferase (2.4.1.43)
C12Y 204/01044	. . Lipopolysaccharide 3-alpha-galactosyltransferase (2.4.1.44)
C12Y 204/01045	. . 2-Hydroxyacylsphingosine 1-beta-galactosyltransferase (2.4.1.45)
C12Y 204/01046	. . Monogalactosyldiacylglycerol synthase (2.4.1.46)
C12Y 204/01047	. . N-Acylsphingosine galactosyltransferase (2.4.1.47)
C12Y 204/01048	. . Heteroglycan alpha-mannosyltransferase (2.4.1.48)
C12Y 204/01049	. . Cellodextrin phosphorylase (2.4.1.49)
C12Y 204/0105	. . Procollagen galactosyltransferase (2.4.1.50)
C12Y 204/01051	. . UDP-N-acetylglucosamine-glycoprotein N-acetylglucosaminyltransferase (2.4.1.51) ( <a href="#">C12Y 204/01101</a> , <a href="#">C12Y 204/01143</a> - <a href="#">C12Y 204/01145</a> take precedence)
C12Y 204/01052	. . Poly(glycerol-phosphate) alpha-glucosyltransferase (2.4.1.52)
C12Y 204/01053	. . Poly(ribitol-phosphate) beta-glucosyltransferase (2.4.1.53)
C12Y 204/01054	. . Undecaprenyl-phosphate mannosyltransferase (2.4.1.54)
C12Y 204/01056	. . Lipopolysaccharide N-acetylglucosaminyltransferase (2.4.1.56)
C12Y 204/01057	. . Phosphatidylinositol alpha-mannosyltransferase (2.4.1.57)
C12Y 204/01058	. . Lipopolysaccharide glucosyltransferase I (2.4.1.58)
C12Y 204/0106	. . Abequosyltransferase (2.4.1.60)
C12Y 204/01062	. . Ganglioside galactosyltransferase (2.4.1.62)
C12Y 204/01063	. . Linamarin synthase (2.4.1.63)
C12Y 204/01064	. . Alpha,alpha-trehalose phosphorylase (2.4.1.64)
C12Y 204/01065	. . 3-Galactosyl-N-acetylglucosaminide 4-alpha-L-fucosyltransferase (2.4.1.65), i.e. alpha-1-3 fucosyltransferase
C12Y 204/01066	. . Procollagen glucosyltransferase (2.4.1.66)
C12Y 204/01067	. . Galactinol--raffinose galactosyltransferase (2.4.1.67)
C12Y 204/01068	. . Glycoprotein 6-alpha-L-fucosyltransferase (2.4.1.68), i.e. FUT8
C12Y 204/01069	. . Galactoside 2-alpha-L-fucosyltransferase (2.4.1.69)
C12Y 204/0107	. . Poly(ribitol-phosphate) N-acetylglucosaminyltransferase (2.4.1.70)
C12Y 204/01071	. . Arylamine glucosyltransferase (2.4.1.71)
C12Y 204/01073	. . Lipopolysaccharide glucosyltransferase II (2.4.1.73)
C12Y 204/01074	. . Glycosaminoglycan galactosyltransferase (2.4.1.74)

C12Y 204/01078	. . Phosphopolyprenol glucosyltransferase (2.4.1.78)
C12Y 204/01079	. . Globotriaosylceramide 3-beta-N-acetylgalactosaminyltransferase (2.4.1.79)
C12Y 204/0108	. . Ceramide glucosyltransferase (2.4.1.80)
C12Y 204/01081	. . Flavone 7-O-beta-glucosyltransferase (2.4.1.81)
C12Y 204/01082	. . Galactinol--sucrose galactosyltransferase (2.4.1.82)
C12Y 204/01083	. . Dolichyl-phosphate beta-D-mannosyltransferase (2.4.1.83)
C12Y 204/01085	. . Cyanohydrin beta-glucosyltransferase (2.4.1.85)
C12Y 204/01086	. . Glucosaminylgalactosylglucosylceramide beta-galactosyltransferase (2.4.1.86)
C12Y 204/01087	. . N-Acetyllactosaminide 3-alpha-galactosyltransferase (2.4.1.87), i.e. alpha-1,3-galactosyltransferase
C12Y 204/01088	. . Globoside alpha-N-acetylgalactosaminyltransferase (2.4.1.88)
C12Y 204/0109	. . N-Acetyllactosamine synthase (2.4.1.90)
C12Y 204/01091	. . Flavonol 3-O-glucosyltransferase (2.4.1.91)
C12Y 204/01092	. . (N-acetylneuraminy)-galactosylglucosylceramide N-acetylgalactosaminyltransferase (2.4.1.92)
C12Y 204/01094	. . Protein N-acetylglucosaminyltransferase (2.4.1.94)
C12Y 204/01095	. . Bilirubin-glucuronoside glucuronosyltransferase (2.4.1.95)
C12Y 204/01096	. . sn-Glycerol-3-phosphate 1-galactosyltransferase (2.4.1.96)
C12Y 204/01097	. . 1,3-Beta-D-glucan phosphorylase (2.4.1.97)
C12Y 204/01099	. . Sucrose:sucrose fructosyltransferase (2.4.1.99)
C12Y 204/011	. . 2,1-Fructan:2,1-fructan 1-fructosyltransferase (2.4.1.100)
C12Y 204/01101	. . Alpha-1,3-mannosyl-glycoprotein 2-beta-N-acetylglucosaminyltransferase (2.4.1.101)
C12Y 204/01102	. . Beta-1,3-galactosyl-O-glycosyl-glycoprotein beta-1,6-N-acetylglucosaminyltransferase (2.4.1.102)
C12Y 204/01103	. . Alizarin 2-beta-glucosyltransferase (2.4.1.103)
C12Y 204/01104	. . o-Dihydroxycoumarin 7-O-glucosyltransferase (2.4.1.104)
C12Y 204/01105	. . Vitexin beta-glucosyltransferase (2.4.1.105)
C12Y 204/01106	. . Isovitexin beta-glucosyltransferase (2.4.1.106)
C12Y 204/01109	. . Dolichyl-phosphate-mannose-protein mannosyltransferase (2.4.1.109)
C12Y 204/0111	. . tRNA-queuosine beta-mannosyltransferase (2.4.1.110)
C12Y 204/01111	. . Coniferyl-alcohol glucosyltransferase (2.4.1.111)
C12Y 204/01113	. . Alpha-1,4-glucan-protein synthase (ADP-forming) (2.4.1.113)
C12Y 204/01114	. . 2-Coumarate O-beta-glucosyltransferase (2.4.1.114)
C12Y 204/01115	. . Anthocyanidin 3-O-glucosyltransferase (2.4.1.115)
C12Y 204/01116	. . Cyanidin 3-O-rutinoside 5-O-glucosyltransferase (2.4.1.116)
C12Y 204/01117	. . Dolichyl-phosphate beta-glucosyltransferase (2.4.1.117)
C12Y 204/01118	. . Cytokinin 7-beta-glucosyltransferase (2.4.1.118)
C12Y 204/0112	. . Sinapate 1-glucosyltransferase (2.4.1.120)
C12Y 204/01121	. . Indole-3-acetate beta-glucosyltransferase (2.4.1.121)
C12Y 204/01122	. . Glycoprotein-N-acetylgalactosamine 3-beta-galactosyltransferase (2.4.1.122)

C12Y 204/01123	. . Inositol 3-alpha-galactosyltransferase (2.4.1.123) i.e. galactinol-synthase
C12Y 204/01125	. . Sucrose--1,6-alpha-glucan 3(6)-alpha-glucosyltransferase (2.4.1.125)
C12Y 204/01126	. . Hydroxycinnamate 4-beta-glucosyltransferase (2.4.1.126)
C12Y 204/01127	. . Monoterpenol beta-glucosyltransferase (2.4.1.127)
C12Y 204/01128	. . Scopoletin glucosyltransferase (2.4.1.128)
C12Y 204/01129	. . Peptidoglycan glycosyltransferase (2.4.1.129)
C12Y 204/0113	. . Dolichyl-phosphate-mannose-glycolipid alpha-mannosyltransferase (2.4.1.130) ( <a href="#">C12Y 204/01258</a> - <a href="#">C12Y 204/01261</a> take precedence)
C12Y 204/01131	. . GDP-Man:Man3GlcNAc2-PP-dolichol alpha-1,2-mannosyltransferase (2.4.1.131)
C12Y 204/01132	. . GDP-Man:Man1GlcNAc2-PP-dolichol alpha-1,3-mannosyltransferase (2.4.1.132)
C12Y 204/01133	. . Xylosylprotein 4-beta-galactosyltransferase (2.4.1.133)
C12Y 204/01134	. . Galactosylxylosylprotein 3-beta-galactosyltransferase (2.4.1.134)
C12Y 204/01135	. . Galactosylgalactosylxylosylprotein 3-beta-glucuronosyltransferase (2.4.1.135)
C12Y 204/01136	. . Gallate 1-beta-glucosyltransferase (2.4.1.136)
C12Y 204/01137	. . sn-Glycerol-3-phosphate 2-alpha-galactosyltransferase (2.4.1.137)
C12Y 204/01138	. . Mannotetraose 2-alpha-N-acetylglucosaminyltransferase (2.4.1.138)
C12Y 204/01139	. . Maltose synthase (2.4.1.139)
C12Y 204/0114	. . Alternansucrase (2.4.1.140)
C12Y 204/01141	. . N-Acetylglucosaminyldiphosphodolichol N-acetylglucosaminyltransferase (2.4.1.141)
C12Y 204/01142	. . Chitobiosyldiphosphodolichol beta-mannosyltransferase (2.4.1.142)
C12Y 204/01143	. . Alpha-1,6-mannosyl-glycoprotein 2-beta-N-acetylglucosaminyltransferase (2.4.1.143)
C12Y 204/01144	. . Beta-1,4-mannosyl-glycoprotein 4-beta-N-acetylglucosaminyltransferase (2.4.1.144)
C12Y 204/01145	. . Alpha-1,3-mannosyl-glycoprotein 4-beta-N-acetylglucosaminyltransferase (2.4.1.145)
C12Y 204/01146	. . Beta-1,3-galactosyl-O-glycosyl-glycoprotein beta-1,3-N-acetylglucosaminyltransferase (2.4.1.146)
C12Y 204/01147	. . Acetylgalactosaminyl-O-glycosyl-glycoprotein beta-1,3-N-acetylglucosaminyltransferase (2.4.1.147)
C12Y 204/01148	. . Acetylgalactosaminyl-O-glycosyl-glycoprotein beta-1,6-N-acetylglucosaminyltransferase (2.4.1.148)
C12Y 204/01149	. . N-Acetylactosaminide beta-1,3-N-acetylglucosaminyltransferase (2.4.1.149)
C12Y 204/0115	. . N-Acetylactosaminide beta-1,6-N-acetylglucosaminyl-transferase (2.4.1.150)
C12Y 204/01152	. . 4-Galactosyl-N-acetylglucosaminide 3-alpha-L-fucosyltransferase (2.4.1.152)
C12Y 204/01153	. . Dolichyl-phosphate alpha-N-acetylglucosaminyltransferase (2.4.1.153)
C12Y 204/01155	. . Alpha-1,6-mannosyl-glycoprotein 6-beta-N-acetylglucosaminyltransferase (2.4.1.155)
C12Y 204/01156	. . Indolylacetyl-myo-inositol galactosyltransferase (2.4.1.156)
C12Y 204/01157	. . 1,2-Diacylglycerol 3-glucosyltransferase (2.4.1.157)
C12Y 204/01158	. . 13-Hydroxydocosanoate 13-beta-glucosyltransferase (2.4.1.158)

C12Y 204/01159	. . Flavonol-3-O-glucoside L-rhamnosyltransferase (2.4.1.159)
C12Y 204/0116	. . Pyridoxine 5'-O-beta-D-glucosyltransferase (2.4.1.160)
C12Y 204/01161	. . Oligosaccharide 4-alpha-D-glucosyltransferase (2.4.1.161)
C12Y 204/01162	. . Aldose beta-D-fructosyltransferase (2.4.1.162)
C12Y 204/01163	. . Beta-galactosyl-N-acetylglucosaminylgalactosylglucosyl-ceramide beta-1,3-acetylglucosaminyltransferase (2.4.1.163)
C12Y 204/01164	. . Galactosyl-N-acetylglucosaminylgalactosylglucosyl-ceramide beta-1,6-N-acetylglucosaminyltransferase (2.4.1.164)
C12Y 204/01165	. . N-Acetylneuraminylgalactosylglucosylceramide beta-1,4-N-acetylglactosaminyltransferase (2.4.1.165)
C12Y 204/01166	. . Raffinose--raffinose alpha-galactosyltransferase (2.4.1.166)
C12Y 204/01167	. . Sucrose 6F-alpha-galactosyltransferase (2.4.1.167)
C12Y 204/01168	. . Xyloglucan 4-glucosyltransferase (2.4.1.168)
C12Y 204/0117	. . Isoflavone 7-O-glucosyltransferase (2.4.1.170)
C12Y 204/01171	. . Methyl-ONN-azoxymethanol beta-D-glucosyltransferase (2.4.1.171)
C12Y 204/01172	. . Salicyl-alcohol beta-D-glucosyltransferase (2.4.1.172)
C12Y 204/01173	. . Sterol 3-beta-glucosyltransferase (2.4.1.173)
C12Y 204/01174	. . Glucuronylgalactosylproteoglycan 4-beta-N-acetylglactosaminyltransferase (2.4.1.174), i.e. chondroitin sulfate N-acetylglactosaminyltransferase-1
C12Y 204/01175	. . Glucuronosyl-N-acetylglactosaminyl-proteoglycan 4-beta-N-acetylglactosaminyltransferase II (2.4.1.175)
C12Y 204/01176	. . Gibberellin beta-D-glucosyltransferase (2.4.1.176)
C12Y 204/01177	. . Cinnamate beta-D-glucosyltransferase (2.4.1.177)
C12Y 204/01178	. . Hydroxymandelonitrile glucosyltransferase (2.4.1.178)
C12Y 204/01179	. . Lactosylceramide beta-1,3-galactosyltransferase (2.4.1.179)
C12Y 204/0118	. . Lipopolysaccharide N-acetylmannosaminouronosyltransferase (2.4.1.180)
C12Y 204/01181	. . Hydroxyanthraquinone glucosyltransferase (2.4.1.181)
C12Y 204/01182	. . Lipid-A-disaccharide synthase (2.4.1.182)
C12Y 204/01183	. . Alpha-1,3-glucan synthase (2.4.1.183)
C12Y 204/01184	. . Galactolipid galactosyltransferase (2.4.1.184)
C12Y 204/01185	. . Flavanone 7-O-beta-glucosyltransferase (2.4.1.185)
C12Y 204/01186	. . Glycogenin glucosyltransferase (2.4.1.186)
C12Y 204/01187	. . N-Acetylglucosaminylidiphosphoundecaprenol N-acetyl-beta-D-mannosaminyltransferase (2.4.1.187)
C12Y 204/01188	. . N-Acetylglucosaminylidiphosphoundecaprenol glucosyltransferase (2.4.1.188)
C12Y 204/01189	. . Luteolin 7-O-glucuronosyltransferase (2.4.1.189)
C12Y 204/0119	. . Luteolin-7-O-glucuronide 2''-O-glucuronosyltransferase (2.4.1.190)
C12Y 204/01191	. . Luteolin-7-O-diglucuronide 4'-O-glucuronosyltransferase (2.4.1.191)
C12Y 204/01192	. . Nuatigenin 3-beta-glucosyltransferase (2.4.1.192)
C12Y 204/01193	. . Sarsapogenin 3-beta-glucosyltransferase (2.4.1.193)
C12Y 204/01194	. . 4-Hydroxybenzoate 4-O-beta-D-glucosyltransferase (2.4.1.194)
C12Y 204/01195	. . N-Hydroxythioamide S-beta-glucosyltransferase (2.4.1.195)

C12Y 204/01196	. . Nicotinate glucosyltransferase (2.4.1.196)
C12Y 204/01197	. . High-mannose-oligosaccharide beta-1,4-N-acetylglucosaminyltransferase (2.4.1.197)
C12Y 204/01198	. . Phosphatidylinositol N-acetylglucosaminyltransferase (2.4.1.198)
C12Y 204/01199	. . Beta-mannosylphosphodecaprenol--mannooligosaccharide 6-mannosyltransferase (2.4.1.199)
C12Y 204/01201	. . Alpha-1,6-mannosyl-glycoprotein 4-beta-N-acetylglucosaminyltransferase (2.4.1.201)
C12Y 204/01202	. . 2,4-Dihydroxy-7-methoxy-2H-1,4-benzoxazin-3(4H)-one 2-D-glucosyltransferase (2.4.1.202)
C12Y 204/01203	. . Trans-zeatin O-beta-D-glucosyltransferase (2.4.1.203)
C12Y 204/01205	. . Galactogen 6-beta-galactosyltransferase (2.4.1.205)
C12Y 204/01206	. . Lactosylceramide 1,3-N-acetyl-beta-D-glucosaminyltransferase (2.4.1.206)
C12Y 204/01207	. . Xyloglucan:xyloglucosyl transferase (2.4.1.207)
C12Y 204/01208	. . Diglucosyl diacylglycerol synthase (2.4.1.208)
C12Y 204/01209	. . Cis-p-coumarate glucosyltransferase (2.4.1.209)
C12Y 204/0121	. . Limonoid glucosyltransferase (2.4.1.210)
C12Y 204/01211	. . 1,3-Beta-galactosyl-N-acetylhexosamine phosphorylase (2.4.1.211)
C12Y 204/01212	. . Hyaluronan synthase (2.4.1.212)
C12Y 204/01213	. . Glucosylglycerol-phosphate synthase (2.4.1.213)
C12Y 204/01214	. . Glycoprotein 3-alpha-L-fucosyltransferase (2.4.1.214)
C12Y 204/01215	. . Cis-zeatin O-beta-D-glucosyltransferase (2.4.1.215)
C12Y 204/01216	. . Trehalose 6-phosphate phosphorylase (2.4.1.216)
C12Y 204/01217	. . Mannosyl-3-phosphoglycerate synthase (2.4.1.217)
C12Y 204/01218	. . Hydroquinone glucosyltransferase (2.4.1.218)
C12Y 204/01219	. . Vomilenine glucosyltransferase (2.4.1.219)
C12Y 204/0122	. . Indoxyl-UDPG glucosyltransferase (2.4.1.220)
C12Y 204/01221	. . Peptide-O-fucosyltransferase (2.4.1.221)
C12Y 204/01222	. . O-Fucosylpeptide 3-beta-N-acetylglucosaminyltransferase (2.4.1.222)
C12Y 204/01223	. . Glucuronyl-galactosyl-proteoglycan 4-alpha-N-acetylglucosaminyltransferase (2.4.1.223)
C12Y 204/01224	. . Glucuronosyl-N-acetylglucosaminyl-proteoglycan 4-alpha-N-acetylglucosaminyltransferase (2.4.1.224)
C12Y 204/01225	. . N-Acetylglucosaminyl-proteoglycan 4-beta-glucuronosyltransferase (2.4.1.225)
C12Y 204/01226	. . N-Acetylgalactosaminyl-proteoglycan 3-beta-glucuronosyltransferase (2.4.1.226), i.e. chondroitin sulfate glucuronyltransferase
C12Y 204/01227	. . Undecaprenyldiphospho-muramoylpentapeptide beta-N-acetylglucosaminyltransferase (2.4.1.227)
C12Y 204/01228	. . Lactosylceramide 4-alpha-galactosyltransferase (2.4.1.228)
C12Y 204/01229	. . [Skp1-protein]-hydroxyproline N-acetylglucosaminyltransferase (2.4.1.229)
C12Y 204/0123	. . Kojibiose phosphorylase (2.4.1.230)
C12Y 204/01231	. . Alpha,alpha-trehalose phosphorylase (configuration-retaining) (2.4.1.231)



C12Y 204/01232	. . Initiation-specific alpha-1,6-mannosyltransferase (2.4.1.232)
C12Y 204/01234	. . Kaempferol 3-O-galactosyltransferase (2.4.1.234)
C12Y 204/01236	. . Flavanone 7-O-glucoside 2''-O-beta-L-rhamnosyltransferase (2.4.1.236)
C12Y 204/01237	. . Flavonol 7-O-beta-glucosyltransferase (2.4.1.237)
C12Y 204/01238	. . Anthocyanin 3'-O-beta-glucosyltransferase (2.4.1.238)
C12Y 204/01239	. . Flavonol-3-O-glucoside glucosyltransferase (2.4.1.239)
C12Y 204/0124	. . Flavonol-3-O-glycoside glucosyltransferase (2.4.1.240)
C12Y 204/01241	. . Digalactosyldiacylglycerol synthase (2.4.1.241)
C12Y 204/01242	. . NDP-glucose--starch glucosyltransferase (2.4.1.242)
C12Y 204/01243	. . 6G-Fructosyltransferase (2.4.1.243)
C12Y 204/01244	. . N-Acetyl-beta-glucosaminyl-glycoprotein 4-beta-N-acetylgalactosaminyltransferase (2.4.1.244)
C12Y 204/01245	. . Alpha,alpha-trehalose synthase (2.4.1.245)
C12Y 204/01246	. . Mannosylfructose-phosphate synthase (2.4.1.246)
C12Y 204/01247	. . Beta-D-galactosyl-(1->4)-L-rhamnose phosphorylase (2.4.1.247)
C12Y 204/01248	. . Cycloisomaltooligosaccharide glucanotransferase (2.4.1.248)
C12Y 204/01249	. . Delphinidin 3',5'-O-glucosyltransferase (2.4.1.249)
C12Y 204/0125	. . D-Inositol-3-phosphate glycosyltransferase (2.4.1.250)
C12Y 204/01251	. . GlcA-beta-(1->2)-D-Man-alpha-(1->3)-D-Glc-beta-(1->4)-D-Glc-alpha-1-diphosphoundecaprenol 4-beta-mannosyltransferase (2.4.1.251)
C12Y 204/01252	. . GDP-mannose:cellobiosyl-diphosphopolyprenol alpha-mannosyltransferase (2.4.1.252)
C12Y 204/01253	. . Baicalein 7-O-glucuronosyltransferase (2.4.1.253)
C12Y 204/01254	. . Cyanidin-3-O-glucoside 2-O-glucuronosyltransferase (2.4.1.254)
C12Y 204/01255	. . Protein O-GlcNAc transferase (2.4.1.255)
C12Y 204/01256	. . Dolichyl-P-Glc:Glc2Man9GlcNAc2-PP-dolichol alpha-1,2-glucosyltransferase (2.4.1.256)
C12Y 204/01257	. . GDP-Man:Man2GlcNAc2-PP-dolichol alpha-1,6-mannosyltransferase (2.4.1.257)
C12Y 204/01258	. . Dolichyl-P-Man:Man5GlcNAc2-PP-dolichol alpha-1,3-mannosyltransferase (2.4.1.258)
C12Y 204/01259	. . Dolichyl-P-Man:Man6GlcNAc2-PP-dolichol alpha-1,2-mannosyltransferase (2.4.1.259)
C12Y 204/0126	. . Dolichyl-P-Man:Man7GlcNAc2-PP-dolichol alpha-1,6-mannosyltransferase (2.4.1.260)
C12Y 204/01261	. . Dolichyl-P-Man:Man8GlcNAc2-PP-dolichol alpha-1,2-mannosyltransferase (2.4.1.261)
C12Y 204/01262	. . Soyasapogenol glucuronosyltransferase (2.4.1.262)
C12Y 204/01263	. . Abscisate beta-glucosyltransferase (2.4.1.263)
C12Y 204/01264	. . D-Man-alpha-(1->3)-D-Glc-beta-(1->4)-D-Glc-alpha-1-diphosphoundecaprenol 2-beta-glucuronyltransferase (2.4.1.264)
C12Y 204/01265	. . Dolichyl-P-Glc:Glc1Man9GlcNAc2-PP-dolichol alpha-1,3-glucosyltransferase (2.4.1.265)
C12Y 204/01266	. . Glucosyl-3-phosphoglycerate synthase (2.4.1.266)

C12Y 204/01267	. . Dolichyl-P-Glc:Man9GlcNAc2-PP-dolichol alpha-1,3-glucosyltransferase (2.4.1.267)
C12Y 204/01268	. . Glucosylglycerate synthase (2.4.1.268)
C12Y 204/01269	. . Mannosylglycerate synthase (2.4.1.269)
C12Y 204/0127	. . Mannosylglucosyl-3-phosphoglycerate synthase (2.4.1.270)
C12Y 204/01271	. . Crocetin glucosyltransferase (2.4.1.271)
C12Y 204/01272	. . Soyasapogenol B glucuronide galactosyltransferase (2.4.1.272)
C12Y 204/01273	. . Soyasaponin III rhamnosyltransferase (2.4.1.273)
C12Y 204/01274	. . Glucosylceramide beta-1,4-galactosyltransferase (2.4.1.274)
C12Y 204/01275	. . Lactotriaosylceramide beta-1,4-galactosyltransferase (2.4.1.275)
C12Y 204/01276	. . Zeaxanthin glucosyltransferase (2.4.1.276)
C12Y 204/01277	. . Glycosyltransferase DesVII (2.4.1.277)
C12Y 204/01278	. . Desosaminyl transferase EryCIII (2.4.1.278)
C12Y 204/01279	. . Nigerose phosphorylase (2.4.1.279)
C12Y 204/0128	. . N,N'-Diacetylchitobiose phosphorylase (2.4.1.280)
C12Y 204/01281	. . 4-O-Beta-D-mannosyl-D-glucose phosphorylase (2.4.1.281)
C12Y 204/01282	. . 3-O-Alpha-D-glucosyl-L-rhamnose phosphorylase (2.4.1.282)
C12Y 204/01283	. . 2-Deoxystreptamine N-acetyl-D-glucosaminyltransferase (2.4.1.283)
C12Y 204/01284	. . 2-Deoxystreptamine glucosyltransferase (2.4.1.284)
C12Y 204/01285	. . UDP-GlcNAc:ribostamycin N-acetylglucosaminyltransferase (2.4.1.285)
C12Y 204/01286	. . Chalcone 4'-O-glucosyltransferase (2.4.1.286)
C12Y 204/01287	. . Rhamnopyranosyl-N-acetylglucosaminyl-diphospho-decaprenol beta-1,3/1,4-galactofuranosyltransferase (2.4.1.287)
C12Y 204/01288	. . Galactofuranosylgalactofuranosylrhamnosyl-N-acetylglucosaminyl-diphospho-decaprenol beta-1,5/1,6-galactofuranosyltransferase (2.4.1.288)
C12Y 204/01289	. . N-Acetylglucosaminyl-diphospho-decaprenol L-rhamnosyltransferase (2.4.1.289)
C12Y 204/0129	. . N,N'-Diacetylbacillosaminy-diphospho-undecaprenol alpha-1,3-N-acetyl-galactosaminyltransferase (2.4.1.290)
C12Y 204/01291	. . N-Acetyl-galactosamine-N,N'-diacetylbacillosaminy-diphospho-undecaprenol 4-alpha-N-acetyl-galactosaminyltransferase (2.4.1.291)
C12Y 204/01292	. . GalNAc-alpha-(1→4)-GalNAc-alpha-(1→3)-diNAcBac-PP-undecaprenol alpha-1,4-N-acetyl-D-galactosaminyltransferase (2.4.1.292)
C12Y 204/01293	. . GalNAc5-diNAcBac-PP-undecaprenol beta-1,3-glucosyltransferase (2.4.1.293)
C12Y 204/02	. Pentosyltransferases (2.4.2)
C12Y 204/02001	. . Purine-nucleoside phosphorylase (2.4.2.1)
C12Y 204/02002	. . Pyrimidine-nucleoside phosphorylase (2.4.2.2)
C12Y 204/02003	. . Uridine phosphorylase (2.4.2.3)
C12Y 204/02004	. . Thymidine phosphorylase (2.4.2.4)
C12Y 204/02005	. . Nucleoside ribosyltransferase (2.4.2.5)
C12Y 204/02006	. . Nucleoside deoxyribosyltransferase (2.4.2.6)
C12Y 204/02007	. . Adenine phosphoribosyltransferase (2.4.2.7)
C12Y 204/02008	. . Hypoxanthine phosphoribosyltransferase (2.4.2.8)

C12Y 204/02009	. .	Uracil phosphoribosyltransferase (2.4.2.9)
C12Y 204/0201	. .	Orotate phosphoribosyltransferase (2.4.2.10)
C12Y 204/02011	. .	Nicotinate phosphoribosyltransferase (2.4.2.11)
C12Y 204/02012	. .	Nicotinamide phosphoribosyltransferase (2.4.2.12), i.e. visfatin
C12Y 204/02014	. .	Amidophosphoribosyltransferase (2.4.2.14)
C12Y 204/02015	. .	Guanosine phosphorylase (2.4.2.15)
C12Y 204/02016	. .	Urate-ribonucleotide phosphorylase (2.4.2.16)
C12Y 204/02017	. .	ATP phosphoribosyltransferase (2.4.2.17)
C12Y 204/02018	. .	Anthranilate phosphoribosyltransferase (2.4.2.18)
C12Y 204/02019	. .	Nicotinate-nucleotide diphosphorylase (carboxylating) (2.4.2.19)
C12Y 204/0202	. .	Dioxotetrahydropyrimidine phosphoribosyltransferase (2.4.2.20)
C12Y 204/02021	. .	Nicotinate-nucleotide--dimethylbenzimidazole phosphoribosyltransferase (2.4.2.21)
C12Y 204/02022	. .	Xanthine phosphoribosyltransferase (2.4.2.22)
C12Y 204/02023	. .	Deoxyuridine phosphorylase (2.4.2.23)
C12Y 204/02024	. .	1,4-Beta-D-xylan synthase (2.4.2.24)
C12Y 204/02025	. .	Flavone apiosyltransferase (2.4.2.25)
C12Y 204/02026	. .	Protein xylosyltransferase (2.4.2.26)
C12Y 204/02027	. .	dTDP-dihydrostreptose--streptidine-6-phosphate dihydrostreptosyltransferase (2.4.2.27)
C12Y 204/02028	. .	S-Methyl-5'-thioadenosine phosphorylase (2.4.2.28)
C12Y 204/02029	. .	tRNA-guanosine34 transglycosylase (2.4.2.29)
C12Y 204/0203	. .	NAD <sup>+</sup> ADP-ribosyltransferase (2.4.2.30), i.e. tankyrase or poly(ADP-ribose) polymerase
C12Y 204/02031	. .	NAD <sup>+</sup> -protein-arginine ADP-ribosyltransferase (2.4.2.31)
C12Y 204/02032	. .	Dolichyl-phosphate D-xylosyltransferase (2.4.2.32)
C12Y 204/02033	. .	Dolichyl-xylosyl-phosphate--protein xylosyltransferase (2.4.2.33)
C12Y 204/02034	. .	Indolylacetylinoitol arabinosyltransferase (2.4.2.34)
C12Y 204/02035	. .	Flavonol-3-O-glycoside xylosyltransferase (2.4.2.35)
C12Y 204/02036	. .	NAD(+)--diphthamide ADP-ribosyltransferase (2.4.2.36)
C12Y 204/02037	. .	NAD(+)--dinitrogen-reductase ADP-D-ribosyltransferase (2.4.2.37)
C12Y 204/02038	. .	Glycoprotein 2-beta-D-xylosyltransferase (2.4.2.38)
C12Y 204/02039	. .	Xyloglucan 6-xylosyltransferase (2.4.2.39)
C12Y 204/0204	. .	Zeatin O-beta-D-xylosyltransferase (2.4.2.40)
C12Y 204/02041	. .	Xylogalacturonan beta-1,3-xylosyltransferase (2.4.2.41)
C12Y 204/02042	. .	UDP-D-xylose:beta-D-glucoside alpha-1,3-D-xylosyltransferase (2.4.2.42)
C12Y 204/02043	. .	Lipid IVA 4-amino-4-deoxy-L-arabinosyltransferase (2.4.2.43)
C12Y 204/02044	. .	S-Methyl-5'-thioinosine phosphorylase (2.4.2.44)
C12Y 204/02045	. .	Decaprenyl-phosphate phosphoribosyltransferase (2.4.2.45)
C12Y 204/02046	. .	Galactan 5-O-arabinofuranosyltransferase (2.4.2.46)
C12Y 204/02047	. .	Arabinofuranan 3-O-arabinosyltransferase (2.4.2.47)

C12Y 204/02048	. . tRNA-guanine15 transglycosylase (2.4.2.48)
C12Y 204/99	. transferring other glycosyl groups (2.4.99)
C12Y 204/99001	. . Beta-galactoside alpha-2,6-sialyltransferase (2.4.99.1)
C12Y 204/99002	. . Monosialoganglioside sialyltransferase (2.4.99.2)
C12Y 204/99003	. . Alpha-N-acetylgalactosaminide alpha-2,6-sialyltransferase (2.4.99.3)
C12Y 204/99004	. . Beta-galactoside alpha-2,3-sialyltransferase (2.4.99.4)
C12Y 204/99005	. . Galactosyldiacylglycerol alpha-2,3-sialyltransferase (2.4.99.5)
C12Y 204/99006	. . N-Acetyllactosaminide alpha-2,3-sialyltransferase (2.4.99.6)
C12Y 204/99007	. . Alpha-N-acetylneuraminyl-2,3-beta-galactosyl-1,3-N-acetylgalactosaminide 6-alpha-sialyltransferase (2.4.99.7)
C12Y 204/99008	. . Alpha-N-acetylneuraminate alpha-2,8-sialyltransferase (2.4.99.8)
C12Y 204/99009	. . Lactosylceramide alpha-2,3-sialyltransferase (2.4.99.9)
C12Y 204/9901	. . Neolactotetraosylceramide alpha-2,3-sialyltransferase (2.4.99.10)
C12Y 204/99011	. . Lactosylceramide alpha-2,6-N-sialyltransferase (2.4.99.11)
C12Y 204/99012	. . Lipid IVA 3-deoxy-D-manno-octulosonic acid transferase (2.4.99.12)
C12Y 204/99013	. . (KDO)-lipid IVA 3-deoxy-D-manno-octulosonic acid transferase (2.4.99.13)
C12Y 204/99014	. . (KDO)2-lipid IVA (2-8) 3-deoxy-D-manno-octulosonic acid transferase (2.4.99.14)
C12Y 204/99015	. . (KDO)3-lipid IVA (2-4) 3-deoxy-D-manno-octulosonic acid transferase (2.4.99.15)
C12Y 204/99016	. . Starch synthase (maltosyl-transferring) (2.4.99.16)
C12Y 204/99017	. . S-Adenosylmethionine:tRNA ribosyltransferase-isomerase (2.4.99.17)
C12Y 204/99018	. . Dolichyl-diphosphooligosaccharide—protein glycotransferase (2.4.99.18)
C12Y 204/99019	. . Undecaprenyl-diphosphooligosaccharide—protein glycotransferase (2.4.99.19)
<b>C12Y 205/00</b>	<b>Transferases transferring alkyl or aryl groups, other than methyl groups (2.5)</b>
C12Y 205/01	. transferring alkyl or aryl groups, other than methyl groups (2.5.1)
C12Y 205/01001	. . Dimethylallyltranstransferase (2.5.1.1)
C12Y 205/01002	. . Thiamine pyridinylase (2.5.1.2)
C12Y 205/01003	. . Thiamine-phosphate diphosphorylase (2.5.1.3)
C12Y 205/01004	. . Adenosylmethionine cyclotransferase (2.5.1.4)
C12Y 205/01005	. . Galactose-6-sulfurylase (2.5.1.5)
C12Y 205/01006	. . Methionine adenosyltransferase (2.5.1.6), i.e. adenosylmethionine synthetase
C12Y 205/01007	. . UDP-N-acetylglucosamine 1-carboxyvinyltransferase (2.5.1.7)
C12Y 205/01009	. . Riboflavin synthase (2.5.1.9)
C12Y 205/0101	. . (2E,6E)-Farnesyl diphosphate synthase (2.5.1.10), i.e. geranyltranstransferase
C12Y 205/01011	. . Trans-octaprenyltranstransferase (2.5.1.11) ( <a href="#">C12Y 205/01084</a> , <a href="#">C12Y 205/01085</a> take precedence)
C12Y 205/01015	. . Dihydropteroate synthase (2.5.1.15)
C12Y 205/01016	. . Spermidine synthase (2.5.1.16)
C12Y 205/01017	. . Cob(I)yrinic acid a,c-diamide adenosyltransferase (2.5.1.17)
C12Y 205/01018	. . Glutathione transferase (2.5.1.18)

C12Y 205/01019	. . 3-Phosphoshikimate 1-carboxyvinyltransferase (2.5.1.19), i.e. 5-enolpyruvylshikimate-3-phosphate synthase
C12Y 205/0102	. . Rubber cis-polyprenylcistransferase (2.5.1.20)
C12Y 205/01021	. . Squalene synthase (2.5.1.21), i.e. farnesyl-disphosphate farnesyltransferase
C12Y 205/01022	. . Spermine synthase (2.5.1.22)
C12Y 205/01023	. . Sym-norspermidine synthase (2.5.1.23)
C12Y 205/01024	. . Discadenine synthase (2.5.1.24)
C12Y 205/01025	. . tRNA-uridine aminocarboxypropyltransferase (2.5.1.25)
C12Y 205/01026	. . Alkylglycerone-phosphate synthase (2.5.1.26)
C12Y 205/01027	. . Adenylate dimethylallyltransferase (2.5.1.27)
C12Y 205/01028	. . Dimethylallylcistransferase (2.5.1.28)
C12Y 205/01029	. . Geranylgeranyl diphosphate synthase (2.5.1.29)
C12Y 205/0103	. . Heptaprenyl diphosphate synthase (2.5.1.30)
C12Y 205/01031	. . Ditrans,polycis-undecaprenyl-diphosphate synthase [(2E,6E)-farnesyl-diphosphate specific] (2.5.1.31)
C12Y 205/01032	. . 15-Cis-phytoene synthase (2.5.1.32)
C12Y 205/01033	. . Trans-pentaprenyltranstransferase (2.5.1.33) ( <a href="#">C12Y 205/01082</a> , <a href="#">C12Y 205/01083</a> take precedence)
C12Y 205/01034	. . 4-Dimethylallyltryptophan synthase (2.5.1.34)
C12Y 205/01035	. . Aspulvinone dimethylallyltransferase (2.5.1.35)
C12Y 205/01036	. . Trihydroxypterocarpan dimethylallyltransferase (2.5.1.36)
C12Y 205/01038	. . Isonocardicin synthase (2.5.1.38)
C12Y 205/01039	. . 4-Hydroxybenzoate polyprenyltransferase (2.5.1.39)
C12Y 205/01041	. . Phosphoglycerol geranylgeranyltransferase (2.5.1.41)
C12Y 205/01042	. . Geranylgeranylglycerol-phosphate geranylgeranyltransferase (2.5.1.42)
C12Y 205/01043	. . Nicotianamine synthase (2.5.1.43)
C12Y 205/01044	. . Homospermidine synthase (2.5.1.44)
C12Y 205/01045	. . Homospermidine synthase (spermidine-specific) (2.5.1.45)
C12Y 205/01046	. . Deoxyhypusine synthase (2.5.1.46)
C12Y 205/01047	. . Cysteine synthase (2.5.1.47)
C12Y 205/01048	. . Cystathionine gamma-synthase (2.5.1.48)
C12Y 205/01049	. . O-acetylhomoserine aminocarboxypropyltransferase (2.5.1.49)
C12Y 205/0105	. . Zeatin 9-aminocarboxyethyltransferase (2.5.1.50)
C12Y 205/01051	. . Beta-pyrazolylalanine synthase (2.5.1.51)
C12Y 205/01052	. . L-Mimosine synthase (2.5.1.52)
C12Y 205/01053	. . Uracilylalanine synthase (2.5.1.53)
C12Y 205/01054	. . 3-Deoxy-7-phosphoheptulonate synthase (2.5.1.54)
C12Y 205/01055	. . 3-Deoxy-8-phosphooctulonate synthase (2.5.1.55)
C12Y 205/01056	. . N-acetylneuraminate synthase (2.5.1.56)
C12Y 205/01057	. . N-Acylneuraminate-9-phosphate synthase (2.5.1.57)
C12Y 205/01058	. . Protein farnesyltransferase (2.5.1.58)

<a href="#">C12Y 205/01059</a>	. . Protein geranylgeranyltransferase type I (2.5.1.59)
<a href="#">C12Y 205/0106</a>	. . Protein geranylgeranyltransferase type II (2.5.1.60)
<a href="#">C12Y 205/01061</a>	. . Hydroxymethylbilane synthase (2.5.1.61)
<a href="#">C12Y 205/01062</a>	. . Chlorophyll synthase (2.5.1.62)
<a href="#">C12Y 205/01063</a>	. . Adenosyl-fluoride synthase (2.5.1.63)
<a href="#">C12Y 205/01064</a>	. . 2-Succinyl-6-hydroxy-2,4-cyclohexadiene-1-carboxylate synthase (2.5.1.64) ( <a href="#">C12Y 202/01009</a> , <a href="#">C12Y 402/9902</a> take precedence)
<a href="#">C12Y 205/01065</a>	. . O-Phosphoserine sulfhydrylase (2.5.1.65)
<a href="#">C12Y 205/01066</a>	. . N <sup>2</sup> -(2-Carboxyethyl)arginine synthase (2.5.1.66)
<a href="#">C12Y 205/01067</a>	. . Chrysanthemyl diphosphate synthase (2.5.1.67)
<a href="#">C12Y 205/01068</a>	. . (2Z,6E)-Farnesyl diphosphate synthase (2.5.1.68)
<a href="#">C12Y 205/01069</a>	. . Lavandulyl diphosphate synthase (2.5.1.69)
<a href="#">C12Y 205/0107</a>	. . Naringenin 8-dimethylallyltransferase (2.5.1.70)
<a href="#">C12Y 205/01071</a>	. . Leachianone-G 2''-dimethylallyltransferase (2.5.1.71)
<a href="#">C12Y 205/01072</a>	. . Quinolate synthase (2.5.1.72)
<a href="#">C12Y 205/01073</a>	. . O-Phospho-L-seryl-tRNA:Cys-tRNA synthase (2.5.1.73)
<a href="#">C12Y 205/01074</a>	. . 1,4-Dihydroxy-2-naphthoate polyprenyltransferase (2.5.1.74)
<a href="#">C12Y 205/01075</a>	. . tRNA dimethylallyltransferase (2.5.1.75)
<a href="#">C12Y 205/01076</a>	. . Cysteate synthase (2.5.1.76)
<a href="#">C12Y 205/01077</a>	. . 7,8-Didemethyl-8-hydroxy-5-deazariboflavin synthase (2.5.1.77)
<a href="#">C12Y 205/01078</a>	. . 6,7-Dimethyl-8-ribityllumazine synthase (2.5.1.78)
<a href="#">C12Y 205/01079</a>	. . Thermospermine synthase (2.5.1.79)
<a href="#">C12Y 205/0108</a>	. . 7-Dimethylallyltryptophan synthase (2.5.1.80)
<a href="#">C12Y 205/01081</a>	. . Geranylarnesyl diphosphate synthase (2.5.1.81)
<a href="#">C12Y 205/01082</a>	. . Hexaprenyl diphosphate synthase (geranylgeranyl-diphosphate specific)(2.5.1.82)
<a href="#">C12Y 205/01083</a>	. . Hexaprenyl-diphosphate synthase ((2E,6E)-arnesyl-diphosphate specific) (2.5.1.83)
<a href="#">C12Y 205/01084</a>	. . All-trans-nonaprenyl-diphosphate synthase (geranyl-diphosphate specific) (2.5.1.84)
<a href="#">C12Y 205/01085</a>	. . All-trans-nonaprenyl-diphosphate synthase (geranylgeranyl-diphosphate specific) (2.5.1.85)
<a href="#">C12Y 205/01086</a>	. . Trans, polycis-decaprenyl diphosphate synthase (2.5.1.86)
<a href="#">C12Y 205/01087</a>	. . Ditrans, polycis-polyprenyl diphosphate synthase ((2E,6E)-arnesyl diphosphate specific)(2.5.1.87)
<a href="#">C12Y 205/01088</a>	. . Trans, polycis-polyprenyl diphosphate synthase ((2Z,6E)-arnesyl diphosphate specific)(2.5.1.88)
<a href="#">C12Y 205/01089</a>	. . Tritrans, polycis-undecaprenyl-diphosphate synthase (geranylgeranyl-diphosphate specific)(2.5.1.89)
<a href="#">C12Y 205/0109</a>	. . All-trans-octaprenyl-diphosphate synthase (2.5.1.90)
<a href="#">C12Y 205/01091</a>	. . All-trans-decaprenyl-diphosphate synthase (2.5.1.91)
<a href="#">C12Y 205/01092</a>	. . (2Z,6Z)-Farnesyl diphosphate synthase (2.5.1.92)
<a href="#">C12Y 205/01093</a>	. . 4-Hydroxybenzoate geranyltransferase (2.5.1.93)



C12Y 205/01094	. . Adenosyl-chloride synthase (2.5.1.94)
C12Y 205/01095	. . Xanthan ketal pyruvate transferase (2.5.1.95)
C12Y 205/01096	. . 4,4'-diapophytoene synthase (2.5.1.96)
C12Y 205/01097	. . Pseudaminic acid synthase (2.5.1.97)
C12Y 205/01098	. . Rhizobium leguminosarum exopolysaccharide glucosyl ketal-pyruvate-transferase (2.5.1.98)
C12Y 205/01099	. . All-trans-phytoene synthase (2.5.1.99)
C12Y 205/011	. . Fumigaclavine A dimethylallyltransferase (2.5.1.100)
C12Y 205/01101	. . N,N'-Diacetyllegionaminate synthase (2.5.1.101)
C12Y 205/01102	. . Geranyl-pyrophosphate—olivetolic acid geranyltransferase (2.5.1.102)
C12Y 205/01103	. . Presqualene diphosphate synthase (2.5.1.103)

**C12Y 206/00****Transferases transferring nitrogenous groups (2.6)**

C12Y 206/01	. Transaminases (2.6.1)
C12Y 206/01001	. . Aspartate transaminase (2.6.1.1), i.e. aspartate-aminotransferase
C12Y 206/01002	. . Alanine transaminase (2.6.1.2), i.e. alanine-aminotransferase
C12Y 206/01003	. . Cysteine transaminase (2.6.1.3)
C12Y 206/01004	. . Glycine transaminase (2.6.1.4)
C12Y 206/01005	. . Tyrosine transaminase (2.6.1.5)
C12Y 206/01006	. . Leucine transaminase (2.6.1.6)
C12Y 206/01007	. . Kynurenine--oxoglutarate transaminase (2.6.1.7)
C12Y 206/01008	. . 2,5-Diaminovalerate transaminase (2.6.1.8)
C12Y 206/01009	. . Histidinol-phosphate transaminase (2.6.1.9)
C12Y 206/01011	. . Acetylornithine transaminase (2.6.1.11)
C12Y 206/01012	. . Alanine--oxo-acid transaminase (2.6.1.12)
C12Y 206/01013	. . Ornithine aminotransferase (2.6.1.13)
C12Y 206/01014	. . Asparagine--oxo-acid transaminase (2.6.1.14)
C12Y 206/01015	. . Glutamine--pyruvate transaminase (2.6.1.15)
C12Y 206/01016	. . Glutamine-fructose-6-phosphate transaminase (isomerizing) (2.6.1.16), i.e. glucosamine-6-phosphate-synthase
C12Y 206/01017	. . Succinyldiaminopimelate transaminase (2.6.1.17)
C12Y 206/01018	. . Beta-alanine-pyruvate transaminase (2.6.1.18)
C12Y 206/01019	. . 4-Aminobutyrate—2-oxoglutarate transaminase (2.6.1.19)
C12Y 206/01021	. . D-Amino-acid transaminase (2.6.1.21), i.e. D-alanine aminotransferase/ transaminase or D-aspartic aminotransferase/transaminase
C12Y 206/01022	. . (S)-3-Amino-2-methylpropionate transaminase (2.6.1.22)
C12Y 206/01023	. . 4-Hydroxyglutamate transaminase (2.6.1.23)
C12Y 206/01024	. . Diiodotyrosine transaminase (2.6.1.24)
C12Y 206/01026	. . Thyroid-hormone transaminase (2.6.1.26)
C12Y 206/01027	. . Tryptophan transaminase (2.6.1.27)
C12Y 206/01028	. . Tryptophan--phenylpyruvate transaminase (2.6.1.28)

C12Y 206/01029	. . Diamine transaminase (2.6.1.29)
C12Y 206/0103	. . Pyridoxamine--pyruvate transaminase (2.6.1.30)
C12Y 206/01031	. . Pyridoxamine--oxaloacetate transaminase (2.6.1.31)
C12Y 206/01032	. . Valine--3-methyl-2-oxovalerate transaminase (2.6.1.32)
C12Y 206/01033	. . dTDP-4-amino-4,6-dideoxy-D-glucose transaminase (2.6.1.33)
C12Y 206/01034	. . UDP-2-acetamido-4-amino-2,4,6-trideoxyglucose transaminase (2.6.1.34)
C12Y 206/01035	. . Glycine--oxaloacetate transaminase (2.6.1.35)
C12Y 206/01036	. . L-Lysine 6-transaminase (2.6.1.36)
C12Y 206/01037	. . 2-Aminoethylphosphonate--pyruvate transaminase (2.6.1.37)
C12Y 206/01038	. . Histidine transaminase (2.6.1.38)
C12Y 206/01039	. . 2-Aminoadipate transaminase (2.6.1.39)
C12Y 206/0104	. . (R)-3-Amino-2-methylpropionate--pyruvate transaminase (2.6.1.40)
C12Y 206/01041	. . D-Methionine--pyruvate transaminase (2.6.1.41)
C12Y 206/01042	. . Branched-chain-amino-acid transaminase (2.6.1.42)
C12Y 206/01043	. . Aminolevulinate transaminase (2.6.1.43)
C12Y 206/01044	. . Alanine--glyoxylate transaminase (2.6.1.44)
C12Y 206/01045	. . Serine--glyoxylate transaminase (2.6.1.45)
C12Y 206/01046	. . Diaminobutyrate--pyruvate transaminase (2.6.1.46)
C12Y 206/01047	. . Alanine--oxomalonate transaminase (2.6.1.47)
C12Y 206/01048	. . 5-Aminovalerate transaminase (2.6.1.48)
C12Y 206/01049	. . Dihydroxyphenylalanine transaminase (2.6.1.49)
C12Y 206/0105	. . Glutamine--scyllo-inositol transaminase (2.6.1.50)
C12Y 206/01051	. . Serine--pyruvate transaminase (2.6.1.51)
C12Y 206/01052	. . Phosphoserine transaminase (2.6.1.52)
C12Y 206/01054	. . Pyridoxamine-phosphate transaminase (2.6.1.54)
C12Y 206/01055	. . Taurine--2-oxoglutarate transaminase (2.6.1.55)
C12Y 206/01056	. . 1D-1-Guanidino-3-amino-1,3-dideoxy-scyllo-inositol transaminase (2.6.1.56)
C12Y 206/01057	. . Aromatic-amino-acid transaminase (2.6.1.57)
C12Y 206/01058	. . Phenylalanine(histidine) transaminase (2.6.1.58)
C12Y 206/01059	. . dTDP-4-amino-4,6-dideoxygalactose transaminase (2.6.1.59)
C12Y 206/0106	. . Aromatic-amino-acid--glyoxylate transaminase (2.6.1.60)
C12Y 206/01062	. . Adenosylmethionine--8-amino-7-oxononanoate transaminase (2.6.1.62)
C12Y 206/01063	. . Kynurenine--glyoxylate transaminase (2.6.1.63)
C12Y 206/01064	. . Glutamine-phenylpyruvate transaminase (2.6.1.64)
C12Y 206/01065	. . N6-Acetyl-beta-lysine transaminase (2.6.1.65)
C12Y 206/01066	. . Valine--pyruvate transaminase (2.6.1.66)
C12Y 206/01067	. . 2-Aminohexanoate transaminase (2.6.1.67)
C12Y 206/01068	. . Ornithine(lysine) transaminase (2.6.1.68)
C12Y 206/0107	. . Aspartate--phenylpyruvate transaminase (2.6.1.70)
C12Y 206/01071	. . Lysine--pyruvate 6-transaminase (2.6.1.71)

C12Y 206/01072	. . D-4-Hydroxyphenylglycine transaminase (2.6.1.72)
C12Y 206/01073	. . Methionine--glyoxylate transaminase (2.6.1.73)
C12Y 206/01074	. . Cephalosporin-C transaminase (2.6.1.74)
C12Y 206/01075	. . Cysteine-conjugate transaminase (2.6.1.75)
C12Y 206/01076	. . Diaminobutyrate--2-oxoglutarate transaminase (2.6.1.76)
C12Y 206/01077	. . Taurine--pyruvate aminotransferase (2.6.1.77)
C12Y 206/01078	. . Aspartate--prephenate aminotransferase (2.6.1.78)
C12Y 206/01079	. . Glutamate--prephenate aminotransferase (2.6.1.79)
C12Y 206/0108	. . Nicotianamine aminotransferase (2.6.1.80)
C12Y 206/01081	. . Succinylornithine transaminase (2.6.1.81)
C12Y 206/01082	. . Putrescine aminotransferase (2.6.1.82)
C12Y 206/01083	. . LL-Diaminopimelate aminotransferase (2.6.1.83)
C12Y 206/01084	. . Arginine--pyruvate transaminase (2.6.1.84)
C12Y 206/01085	. . Aminodeoxychorismate synthase (2.6.1.85)
C12Y 206/01086	. . 2-Amino-4-deoxychorismate synthase (2.6.1.86)
C12Y 206/01087	. . UDP-4-amino-4-deoxy-L-arabinose aminotransferase (2.6.1.87)
C12Y 206/01088	. . Methionine transaminase (2.6.1.88)
C12Y 206/01089	. . dTDP-3-amino-3,6-dideoxy-alpha-D-glucopyranose transaminase (2.6.1.89)
C12Y 206/0109	. . dTDP-3-amino-3,6-dideoxy-alpha-D-galactopyranose transaminase (2.6.1.90)
C12Y 206/01091	. . UDP-4-amino-4,6-dideoxy-alpha-D-N-acetyl-D-glucosamine transaminase (2.6.1.91)
C12Y 206/01092	. . UDP-4-amino-4,6-dideoxy-L-N-acetyl-beta-L-altrosamine transaminase (2.6.1.92)
C12Y 206/01093	. . Neamine transaminase (2.6.1.93)
C12Y 206/01094	. . 2'-Deamino-2'-hydroxylamine transaminase (2.6.1.94)
C12Y 206/01095	. . Neomycin C transaminase (2.6.1.95)
C12Y 206/01096	. . 4-Aminobutyrate--pyruvate transaminase (2.6.1.96)
C12Y 206/01097	. . Archaeosine synthase (2.6.1.97)
C12Y 206/01098	. . UDP-2-acetamido-2-deoxy-ribo-hexuluronate aminotransferase (2.6.1.98)
C12Y 206/01099	. . L-Tryptophan--pyruvate aminotransferase (2.6.1.99)
C12Y 206/03	. Oximinotransferases (2.6.3)
C12Y 206/03001	. . Oximinotransferase (2.6.3.1)
C12Y 206/99	. transferring other nitrogenous groups (2.6.99)
C12Y 206/99001	. . dATP(dGTP)--DNA purinetransferase (2.6.99.1)
C12Y 206/99002	. . Pyridoxine 5'-phosphate synthase (2.6.99.2)

## **C12Y 207/00      Transferases transferring phosphorus-containing groups (2.7)**

C12Y 207/01	. Phosphotransferases with an alcohol group as acceptor (2.7.1)
C12Y 207/01001	. . Hexokinase (2.7.1.1)
C12Y 207/01002	. . Glucokinase (2.7.1.2)
C12Y 207/01003	. . Ketohexokinase (2.7.1.3)
C12Y 207/01004	. . Fructokinase (2.7.1.4)

C12Y 207/01005	. . Rhamnulokinase (2.7.1.5)
C12Y 207/01006	. . Galactokinase (2.7.1.6)
C12Y 207/01007	. . Mannokinase (2.7.1.7)
C12Y 207/01008	. . Glucosamine kinase (2.7.1.8)
C12Y 207/0101	. . Phosphoglucokinase (2.7.1.10)
C12Y 207/01011	. . 6-Phosphofructokinase (2.7.1.11)
C12Y 207/01012	. . Gluconokinase (2.7.1.12)
C12Y 207/01013	. . Dehydrogluconokinase (2.7.1.13)
C12Y 207/01014	. . Sedoheptulokinase (2.7.1.14)
C12Y 207/01015	. . Ribokinase (2.7.1.15)
C12Y 207/01016	. . Ribulokinase (2.7.1.16)
C12Y 207/01017	. . Xylulokinase (2.7.1.17)
C12Y 207/01018	. . Phosphoribokinase (2.7.1.18)
C12Y 207/01019	. . Phosphoribulokinase (2.7.1.19)
C12Y 207/0102	. . Adenosine kinase (2.7.1.20)
C12Y 207/01021	. . Thymidine kinase (2.7.1.21)
C12Y 207/01022	. . Ribosylnicotinamide kinase (2.7.1.22)
C12Y 207/01023	. . NAD <sup>+</sup> kinase (2.7.1.23)
C12Y 207/01024	. . Dephospho-CoA kinase (2.7.1.24)
C12Y 207/01025	. . Adenylyl-sulfate kinase (2.7.1.25)
C12Y 207/01026	. . Riboflavin kinase (2.7.1.26)
C12Y 207/01027	. . Erythritol kinase (2.7.1.27)
C12Y 207/01028	. . Triokinase (2.7.1.28)
C12Y 207/01029	. . Glycerone kinase (2.7.1.29), i.e. dihydroxyacetone kinase
C12Y 207/0103	. . Glycerol kinase (2.7.1.30)
C12Y 207/01031	. . Glycerate kinase (2.7.1.31)
C12Y 207/01032	. . Choline kinase (2.7.1.32)
C12Y 207/01033	. . Pantothenate kinase (2.7.1.33)
C12Y 207/01034	. . Pantetheine kinase (2.7.1.34)
C12Y 207/01035	. . Pyridoxal kinase (2.7.1.35)
C12Y 207/01036	. . Mevalonate kinase (2.7.1.36)
C12Y 207/01037	. . Protein kinase (2.7.1.37) ( <a href="#">C12Y 207/11001</a> , <a href="#">C12Y 207/11008</a> - <a href="#">C12Y 207/11013</a> , <a href="#">C12Y 207/11021</a> , <a href="#">C12Y 207/11022</a> , <a href="#">C12Y 207/11024</a> , <a href="#">C12Y 207/11025</a> , <a href="#">C12Y 207/1103</a> or <a href="#">C12Y 207/12001</a> takes precedence)
C12Y 207/01039	. . Homoserine kinase (2.7.1.39)
C12Y 207/0104	. . Pyruvate kinase (2.7.1.40)
C12Y 207/01041	. . Glucose-1-phosphate phosphodismutase (2.7.1.41)
C12Y 207/01042	. . Riboflavin phosphotransferase (2.7.1.42)
C12Y 207/01043	. . Glucuronokinase (2.7.1.43)
C12Y 207/01044	. . Galacturonokinase (2.7.1.44)

C12Y 207/01045	. . 2-Dehydro-3-deoxygluconokinase (2.7.1.45)
C12Y 207/01046	. . L-Arabinokinase (2.7.1.46)
C12Y 207/01047	. . D-Ribulokinase (2.7.1.47)
C12Y 207/01048	. . Uridine kinase (2.7.1.48)
C12Y 207/01049	. . Hydroxymethylpyrimidine kinase (2.7.1.49)
C12Y 207/0105	. . Hydroxyethylthiazole kinase (2.7.1.50)
C12Y 207/01051	. . L-Fuculokinase (2.7.1.51)
C12Y 207/01052	. . Fucokinase (2.7.1.52)
C12Y 207/01053	. . L-Xylulokinase (2.7.1.53)
C12Y 207/01054	. . D-Arabinokinase (2.7.1.54)
C12Y 207/01055	. . Allose kinase (2.7.1.55)
C12Y 207/01056	. . 1-Phosphofructokinase (2.7.1.56)
C12Y 207/01058	. . 2-Dehydro-3-deoxygalactonokinase (2.7.1.58)
C12Y 207/01059	. . N-Acetylglucosamine kinase (2.7.1.59)
C12Y 207/0106	. . N-Acylmannosamine kinase (2.7.1.60)
C12Y 207/01061	. . Acyl-phosphate--hexose phosphotransferase (2.7.1.61)
C12Y 207/01062	. . Phosphoramidate--hexose phosphotransferase (2.7.1.62)
C12Y 207/01063	. . Polyphosphate--glucose phosphotransferase (2.7.1.63)
C12Y 207/01064	. . Inositol 3-kinase (2.7.1.64)
C12Y 207/01065	. . Scyllo-inosamine 4-kinase (2.7.1.65)
C12Y 207/01066	. . Undecaprenol kinase (2.7.1.66)
C12Y 207/01067	. . 1-Phosphatidylinositol 4-kinase (2.7.1.67)
C12Y 207/01068	. . 1-Phosphatidylinositol-4-phosphate 5-kinase (2.7.1.68)
C12Y 207/01069	. . Protein-Npi-phosphohistidine-sugar phosphotransferase (2.7.1.69), i.e. sucrose phosphotransferase system II
C12Y 207/01071	. . Shikimate kinase (2.7.1.71)
C12Y 207/01072	. . Streptomycin 6-kinase (2.7.1.72)
C12Y 207/01073	. . Inosine kinase (2.7.1.73)
C12Y 207/01074	. . Deoxycytidine kinase (2.7.1.74)
C12Y 207/01076	. . Deoxyadenosine kinase (2.7.1.76)
C12Y 207/01077	. . Nucleoside phosphotransferase (2.7.1.77)
C12Y 207/01078	. . Polynucleotide 5'-hydroxyl-kinase (2.7.1.78)
C12Y 207/01079	. . Diphosphate--glycerol phosphotransferase (2.7.1.79)
C12Y 207/0108	. . Diphosphate--serine phosphotransferase (2.7.1.80)
C12Y 207/01081	. . Hydroxylysine kinase (2.7.1.81)
C12Y 207/01082	. . Ethanolamine kinase (2.7.1.82)
C12Y 207/01083	. . Pseudouridine kinase (2.7.1.83)
C12Y 207/01084	. . Alkylglycerone kinase (2.7.1.84)
C12Y 207/01085	. . Beta-glucoside kinase (2.7.1.85)
C12Y 207/01086	. . NADH kinase (2.7.1.86)

C12Y 207/01087	. . Streptomycin 3"-kinase (2.7.1.87)
C12Y 207/01088	. . Dihydrostreptomycin-6-phosphate 3'-alpha-kinase (2.7.1.88)
C12Y 207/01089	. . Thiamine kinase (2.7.1.89)
C12Y 207/0109	. . Diphosphate--fructose-6-phosphate 1-phosphotransferase (2.7.1.90)
C12Y 207/01091	. . Sphinganine kinase (2.7.1.91)
C12Y 207/01092	. . 5-Dehydro-2-deoxygluconokinase (2.7.1.92)
C12Y 207/01093	. . Alkylglycerol kinase (2.7.1.93)
C12Y 207/01094	. . Acylglycerol kinase (2.7.1.94)
C12Y 207/01095	. . Kanamycin kinase (2.7.1.95), i.e. neomycin-kanamycin phosphotransferase
C12Y 207/011	. . S-Methyl-5-thioribose kinase (2.7.1.100)
C12Y 207/01101	. . Tagatose kinase (2.7.1.101)
C12Y 207/01102	. . Hamamelose kinase (2.7.1.102)
C12Y 207/01103	. . Viomycin kinase (2.7.1.103)
C12Y 207/01105	. . 6-Phosphofructo-2-kinase (2.7.1.105)
C12Y 207/01106	. . Glucose-1,6-bisphosphate synthase (2.7.1.106)
C12Y 207/01107	. . Diacylglycerol kinase (2.7.1.107)
C12Y 207/01108	. . Dolichol kinase (2.7.1.108)
C12Y 207/01112	. . Protein-tyrosine kinase (2.7.1.112) ( <a href="#">C12Y 207/10001</a> , <a href="#">C12Y 207/10002</a> take precedence)
C12Y 207/01113	. . Deoxyguanosine kinase (2.7.1.113)
C12Y 207/01114	. . AMP--thymidine kinase (2.7.1.114)
C12Y 207/01118	. . ADP--thymidine kinase (2.7.1.118)
C12Y 207/01119	. . Hygromycin-B 7"-O-kinase (2.7.1.119)
C12Y 207/01121	. . Phosphoenolpyruvate--glycerone phosphotransferase (2.7.1.121)
C12Y 207/01122	. . Xylitol kinase (2.7.1.122)
C12Y 207/01127	. . Inositol-trisphosphate 3-kinase (2.7.1.127)
C12Y 207/0113	. . Tetraacyldisaccharide 4'-kinase (2.7.1.130)
C12Y 207/01134	. . Inositol-tetrakisphosphate 1-kinase (2.7.1.134)
C12Y 207/01136	. . Macrolide 2'-kinase (2.7.1.136)
C12Y 207/01137	. . Phosphatidylinositol 3-kinase (2.7.1.137)
C12Y 207/01138	. . Ceramide kinase (2.7.1.138)
C12Y 207/0114	. . Inositol-tetrakisphosphate 5-kinase (2.7.1.140)
C12Y 207/01142	. . Glycerol-3-phosphate--glucose phosphotransferase (2.7.1.142)
C12Y 207/01143	. . Diphosphate-purine nucleoside kinase (2.7.1.143)
C12Y 207/01144	. . Tagatose-6-phosphate kinase (2.7.1.144)
C12Y 207/01145	. . Deoxynucleoside kinase (2.7.1.145)
C12Y 207/01146	. . ADP-specific phosphofructokinase (2.7.1.146)
C12Y 207/01147	. . ADP-specific glucokinase (2.7.1.147)
C12Y 207/01148	. . 4-(Cytidine 5'-diphospho)-2-C-methyl-D-erythritol kinase (2.7.1.148)
C12Y 207/01149	. . 1-Phosphatidylinositol-5-phosphate 4-kinase (2.7.1.149)



C12Y 207/0115	. . 1-Phosphatidylinositol-3-phosphate 5-kinase (2.7.1.150)
C12Y 207/01151	. . Inositol-polyphosphate multikinase (2.7.1.151)
C12Y 207/01153	. . Phosphatidylinositol-4,5-bisphosphate 3-kinase (2.7.1.153), i.e. phosphoinositide 3-kinase
C12Y 207/01154	. . Phosphatidylinositol-4-phosphate 3-kinase (2.7.1.154)
C12Y 207/01156	. . Adenosylcobinamide kinase (2.7.1.156)
C12Y 207/01157	. . N-Acetylgalactosamine kinase (2.7.1.157)
C12Y 207/01158	. . Inositol-pentakisphosphate 2-kinase (2.7.1.158)
C12Y 207/01159	. . Inositol-1,3,4-trisphosphate 5/6-kinase (2.7.1.159)
C12Y 207/0116	. . 2'-Phosphotransferase (2.7.1.160)
C12Y 207/01161	. . CTP-dependent riboflavin kinase (2.7.1.161)
C12Y 207/01162	. . N-Acetylhexosamine 1-kinase (2.7.1.162)
C12Y 207/01163	. . Hygromycin B 4-O-kinase (2.7.1.163)
C12Y 207/01164	. . O-Phosphoseryl-tRNA(Sec) kinase (2.7.1.164)
C12Y 207/01165	. . Glycerate 2-kinase (2.7.1.165)
C12Y 207/01166	. . 3-Deoxy-D-manno-octulosonic acid kinase (2.7.1.166)
C12Y 207/01167	. . D-Glycero-beta-D-manno-heptose-7-phosphate kinase (2.7.1.167)
C12Y 207/01168	. . D-Glycero-alpha-D-manno-heptose-7-phosphate kinase (2.7.1.168)
C12Y 207/01169	. . Pantoate kinase (2.7.1.169)
C12Y 207/0117	. . Anhydro-N-acetylmuramic acid kinase (2.7.1.170)
C12Y 207/01171	. . Protein-fructosamine 3-kinase (2.7.1.171)
C12Y 207/01172	. . Protein-ribulosamine 3-kinase (2.7.1.172)
C12Y 207/01173	. . Nicotinate riboside kinase (2.7.1.173)
C12Y 207/01174	. . Diacylglycerol kinase (CTP dependent) (2.7.1.174)
C12Y 207/01175	. . Maltokinase (2.7.1.175)
C12Y 207/01176	. . UDP-N-acetylglucosamine kinase (2.7.1.176)
C12Y 207/01177	. . L-Threonine kinase (2.7.1.177)
C12Y 207/02	. Phosphotransferases with a carboxy group as acceptor (2.7.2)
C12Y 207/02001	. . Acetate kinase (2.7.2.1)
C12Y 207/02002	. . Carbamate kinase (2.7.2.2)
C12Y 207/02003	. . Phosphoglycerate kinase (2.7.2.3)
C12Y 207/02004	. . Aspartate kinase (2.7.2.4)
C12Y 207/02006	. . Formate kinase (2.7.2.6)
C12Y 207/02007	. . Butyrate kinase (2.7.2.7)
C12Y 207/02008	. . Acetylglutamate kinase (2.7.2.8)
C12Y 207/0201	. . Phosphoglycerate kinase (GTP) (2.7.2.10)
C12Y 207/02011	. . Glutamate 5-kinase (2.7.2.11)
C12Y 207/02012	. . Acetate kinase (diphosphate) (2.7.2.12)
C12Y 207/02013	. . Glutamate 1-kinase (2.7.2.13)
C12Y 207/02014	. . Branched-chain-fatty-acid kinase (2.7.2.14)

C12Y 207/02015	. . Propionate kinase (2.7.2.15)
C12Y 207/03	. Phosphotransferases with a nitrogenous group as acceptor (2.7.3)
C12Y 207/03001	. . Guanidinoacetate kinase (2.7.3.1)
C12Y 207/03002	. . Creatine kinase (2.7.3.2)
C12Y 207/03003	. . Arginine kinase (2.7.3.3)
C12Y 207/03004	. . Taurocyamine kinase (2.7.3.4)
C12Y 207/03005	. . Lombricine kinase (2.7.3.5)
C12Y 207/03006	. . Hypotaurocyamine kinase (2.7.3.6)
C12Y 207/03007	. . Opheline kinase (2.7.3.7)
C12Y 207/03008	. . Ammonia kinase (2.7.3.8)
C12Y 207/03009	. . Phosphoenolpyruvate-protein phosphotransferase (2.7.3.9)
C12Y 207/0301	. . Agmatine kinase (2.7.3.10)
C12Y 207/04	. Phosphotransferases with a phosphate group as acceptor (2.7.4)
C12Y 207/04001	. . Polyphosphate kinase (2.7.4.1)
C12Y 207/04002	. . Phosphomevalonate kinase (2.7.4.2)
C12Y 207/04003	. . Adenylate kinase (2.7.4.3)
C12Y 207/04004	. . Nucleoside-phosphate kinase (2.7.4.4)
C12Y 207/04006	. . Nucleoside-diphosphate kinase (2.7.4.6)
C12Y 207/04007	. . Phosphomethylpyrimidine kinase (2.7.4.7)
C12Y 207/04008	. . Guanylate kinase (2.7.4.8)
C12Y 207/04009	. . dTMP kinase (2.7.4.9)
C12Y 207/0401	. . Nucleoside-triphosphate--adenylate kinase (2.7.4.10)
C12Y 207/04011	. . (Deoxy)adenylate kinase (2.7.4.11)
C12Y 207/04012	. . T(2)-Induced deoxynucleotide kinase (2.7.4.12)
C12Y 207/04013	. . (Deoxy)nucleoside-phosphate kinase (2.7.4.13)
C12Y 207/04014	. . UMP/CMP kinase (2.7.4.14), i.e. uridine monophosphate kinase
C12Y 207/04015	. . Thiamine-diphosphate kinase (2.7.4.15)
C12Y 207/04016	. . Thiamine-phosphate kinase (2.7.4.16)
C12Y 207/04017	. . 3-Phosphoglyceroyl-phosphate--polyphosphate phosphotransferase (2.7.4.17)
C12Y 207/04018	. . Farnesyl-diphosphate kinase (2.7.4.18)
C12Y 207/04019	. . 5-Methyldeoxycytidine-5'-phosphate kinase (2.7.4.19)
C12Y 207/0402	. . Dolichyl-diphosphate--polyphosphate phosphotransferase (2.7.4.20)
C12Y 207/04021	. . Inositol-hexakisphosphate kinase (2.7.4.21)
C12Y 207/04022	. . UMP kinase (2.7.4.22)
C12Y 207/04023	. . Ribose 1,5-bisphosphate phosphokinase (2.7.4.23)
C12Y 207/04024	. . Diphosphoinositol-pentakisphosphate kinase (2.7.4.24)
C12Y 207/04025	. . (d)CMP kinase (2.7.4.25)
C12Y 207/04026	. . Isopentenyl phosphate kinase (2.7.4.26)
C12Y 207/04027	. . [Pyruvate, phosphate dikinase]-phosphate phosphotransferase (2.7.4.27)
C12Y 207/04028	. . [Pyruvate, water dikinase]-phosphate phosphotransferase (2.7.4.28)

C12Y 207/06	. Diphosphotransferases (2.7.6)
C12Y 207/06001	. . Ribose-phosphate diphosphokinase (2.7.6.1)
C12Y 207/06002	. . Thiamine diphosphokinase (2.7.6.2)
C12Y 207/06003	. . 2-Amino-4-hydroxy-6-hydroxymethyldihydropteridine diphosphokinase (2.7.6.3)
C12Y 207/06004	. . Nucleotide diphosphokinase (2.7.6.4)
C12Y 207/06005	. . GTP diphosphokinase (2.7.6.5)
C12Y 207/07	. Nucleotidyltransferases (2.7.7)
C12Y 207/07001	. . Nicotinamide-nucleotide adenyltransferase (2.7.7.1)
C12Y 207/07002	. . FAD synthetase (2.7.7.2)
C12Y 207/07003	. . Pantetheine-phosphate adenyltransferase (2.7.7.3)
C12Y 207/07004	. . Sulfate adenyltransferase (2.7.7.4)
C12Y 207/07005	. . Sulfate adenyltransferase (ADP) (2.7.7.5)
C12Y 207/07006	. . DNA-directed RNA polymerase (2.7.7.6)
C12Y 207/07007	. . DNA-directed DNA polymerase (2.7.7.7), i.e. DNA replicase
C12Y 207/07008	. . Polyribonucleotide nucleotidyltransferase (2.7.7.8), i.e. polynucleotide phosphorylase
C12Y 207/07009	. . UTP-glucose-1-phosphate uridylyltransferase (2.7.7.9), i.e. UDP-glucose-pyrophosphorylase
C12Y 207/0701	. . UTP--hexose-1-phosphate uridylyltransferase (2.7.7.10)
C12Y 207/07011	. . UTP--xylose-1-phosphate uridylyltransferase (2.7.7.11)
C12Y 207/07012	. . UDP-glucose--hexose-1-phosphate uridylyltransferase (2.7.7.12)
C12Y 207/07013	. . Mannose-1-phosphate guanylyltransferase (2.7.7.13)
C12Y 207/07014	. . Ethanolamine-phosphate cytidylyltransferase (2.7.7.14)
C12Y 207/07015	. . Choline-phosphate cytidylyltransferase (2.7.7.15)
C12Y 207/07018	. . Nicotinate-nucleotide adenyltransferase (2.7.7.18)
C12Y 207/07019	. . Polynucleotide adenyltransferase (2.7.7.19)
C12Y 207/07022	. . Mannose-1-phosphate guanylyltransferase (GDP) (2.7.7.22)
C12Y 207/07023	. . UDP-N-acetylglucosamine diphosphorylase (2.7.7.23)
C12Y 207/07024	. . Glucose-1-phosphate thymidylyltransferase (2.7.7.24)
C12Y 207/07027	. . Glucose-1-phosphate adenyltransferase (2.7.7.27), i.e. ADP-glucose pyrophosphorylase
C12Y 207/07028	. . Nucleoside-triphosphate-aldose-1-phosphate nucleotidyltransferase (2.7.7.28)
C12Y 207/0703	. . Fucose-1-phosphate guanylyltransferase (2.7.7.30)
C12Y 207/07031	. . DNA nucleotidylexotransferase (2.7.7.31), i.e. terminal deoxynucleotidyl transferase
C12Y 207/07032	. . Galactose-1-phosphate thymidylyltransferase (2.7.7.32)
C12Y 207/07033	. . Glucose-1-phosphate cytidylyltransferase (2.7.7.33)
C12Y 207/07034	. . Glucose-1-phosphate guanylyltransferase (2.7.7.34)
C12Y 207/07035	. . Ribose-5-phosphate adenyltransferase (2.7.7.35)
C12Y 207/07036	. . Aldose-1-phosphate adenyltransferase (2.7.7.36)
C12Y 207/07037	. . Aldose-1-phosphate nucleotidyltransferase (2.7.7.37)

C12Y 207/07038	. . 3-Deoxy-manno-octulosonate cytidyltransferase (2.7.7.38)
C12Y 207/07039	. . Glycerol-3-phosphate cytidyltransferase (2.7.7.39)
C12Y 207/0704	. . D-Ribitol-5-phosphate cytidyltransferase (2.7.7.40)
C12Y 207/07041	. . Phosphatidate cytidyltransferase (2.7.7.41), i.e. CDP-diacylglycerol synthase
C12Y 207/07042	. . [Glutamate--ammonia-ligase] adenyltransferase (2.7.7.42)
C12Y 207/07043	. . N-Acylneuraminate cytidyltransferase (2.7.7.43)
C12Y 207/07044	. . Glucuronate-1-phosphate uridylyltransferase (2.7.7.44)
C12Y 207/07045	. . Guanosine-triphosphate guanylyltransferase (2.7.7.45)
C12Y 207/07046	. . Gentamicin 2"-nucleotidyltransferase (2.7.7.46)
C12Y 207/07047	. . Streptomycin 3"-adenyltransferase (2.7.7.47)
C12Y 207/07048	. . RNA-directed RNA polymerase (2.7.7.48), i.e. RNA replicase
C12Y 207/07049	. . RNA-directed DNA polymerase (2.7.7.49), i.e. telomerase or reverse-transcriptase
C12Y 207/0705	. . mRNA guanylyltransferase (2.7.7.50)
C12Y 207/07051	. . Adenylylsulfate--ammonia adenyltransferase (2.7.7.51)
C12Y 207/07052	. . RNA uridylyltransferase (2.7.7.52)
C12Y 207/07053	. . ATP adenyltransferase (2.7.7.53)
C12Y 207/07054	. . Phenylalanine adenyltransferase (2.7.7.54)
C12Y 207/07055	. . Anthranilate adenyltransferase (2.7.7.55)
C12Y 207/07056	. . tRNA nucleotidyltransferase (2.7.7.56)
C12Y 207/07057	. . N-Methylphosphoethanolamine cytidyltransferase (2.7.7.57)
C12Y 207/07058	. . (2,3-Dihydroxybenzoyl)adenylate synthase (2.7.7.58)
C12Y 207/07059	. . [Protein-P <sub>II</sub> ] uridylyltransferase (2.7.7.59)
C12Y 207/0706	. . 2-C-Methyl-D-erythritol 4-phosphate cytidyltransferase (2.7.7.60)
C12Y 207/07061	. . Citrate lyase holo-[acyl-carrier-protein] synthase (2.7.7.61)
C12Y 207/07062	. . Adenosylcobinamide-phosphate guanylyltransferase (2.7.7.62)
C12Y 207/07063	. . Lipoate--protein ligase (2.7.7.63)
C12Y 207/07064	. . UTP-monosaccharide-1-phosphate uridylyltransferase (2.7.7.64)
C12Y 207/07065	. . Diguanylate cyclase (2.7.7.65)
C12Y 207/07066	. . Malonate decarboxylase holo-[acyl-carrier-protein] synthase (2.7.7.66)
C12Y 207/07067	. . CDP-archaeol synthase (2.7.7.67)
C12Y 207/07068	. . 2-Phospho-L-lactate guanylyltransferase (2.7.7.68)
C12Y 207/07069	. . GDP-L-galactose phosphorylase (2.7.7.69)
C12Y 207/0707	. . D-Glycero-beta-D-manno-heptose 1-phosphate adenyltransferase (2.7.7.70)
C12Y 207/07071	. . D-Glycero-alpha-D-manno-heptose 1-phosphate guanylyltransferase (2.7.7.71)
C12Y 207/07072	. . CCA tRNA nucleotidyltransferase (2.7.7.72)
C12Y 207/07073	. . Sulfur carrier protein ThiS adenyltransferase (2.7.7.73)
C12Y 207/07074	. . 1L-Myo-inositol 1-phosphate cytidyltransferase (2.7.7.74)
C12Y 207/07075	. . Molybdopterin adenyltransferase (2.7.7.75)
C12Y 207/07076	. . Molybdenum cofactor cytidyltransferase (2.7.7.76)
C12Y 207/07077	. . Molybdenum cofactor guanylyltransferase (2.7.7.77)

C12Y 207/07078	. . GDP-D-glucose phosphorylase (2.7.7.78)
C12Y 207/07079	. . tRNA(His) guanylyltransferase (2.7.7.79)
C12Y 207/0708	. . Molybdopterin-synthase adenyltransferase (2.7.7.80)
C12Y 207/07081	. . Pseudaminic acid cytidyltransferase (2.7.7.81)
C12Y 207/07082	. . CMP-N,N'-diacetyllegionaminic acid synthase (2.7.7.82)
C12Y 207/07083	. . UDP-N-acetylgalactosamine diphosphorylase (2.7.7.83)
C12Y 207/08	. Transferases for other substituted phosphate groups (2.7.8)
C12Y 207/08001	. . Ethanolaminephosphotransferase (2.7.8.1)
C12Y 207/08002	. . Diacylglycerol cholinephosphotransferase (2.7.8.2)
C12Y 207/08003	. . Ceramide cholinephosphotransferase (2.7.8.3)
C12Y 207/08004	. . Serine-phosphoethanolamine synthase (2.7.8.4)
C12Y 207/08005	. . CDP-diacylglycerol-glycerol-3-phosphate 3-phosphatidyltransferase (2.7.8.5)
C12Y 207/08006	. . Undecaprenyl-phosphate galactose phosphotransferase (2.7.8.6)
C12Y 207/08007	. . Holo-[acyl-carrier-protein] synthase (2.7.8.7)
C12Y 207/08008	. . CDP-diacylglycerol--serine O-phosphatidyltransferase (2.7.8.8)
C12Y 207/08009	. . Phosphomannan mannosephosphotransferase (2.7.8.9)
C12Y 207/0801	. . Sphingosine cholinephosphotransferase (2.7.8.10)
C12Y 207/08011	. . CDP-diacylglycerol--inositol 3-phosphatidyltransferase (2.7.8.11)
C12Y 207/08012	. . CDP-glycerol glycerophosphotransferase (2.7.8.12)
C12Y 207/08013	. . Phospho-N-acetylmuramoyl-pentapeptide-transferase (2.7.8.13)
C12Y 207/08014	. . CDP-ribitol ribitolphosphotransferase (2.7.8.14)
C12Y 207/08015	. . UDP-N-acetylglucosamine--dolichyl-phosphate N-acetylglucosaminephosphotransferase (2.7.8.15)
C12Y 207/08017	. . UDP-N-acetylglucosamine--lysosomal-enzyme N-acetylglucosaminephosphotransferase (2.7.8.17)
C12Y 207/08018	. . UDP-galactose--UDP-N-acetylglucosamine galactose phosphotransferase (2.7.8.18)
C12Y 207/08019	. . UDP-glucose--glycoprotein glucose phosphotransferase (2.7.8.19)
C12Y 207/0802	. . Phosphatidylglycerol--membrane-oligosaccharide glycerophosphotransferase (2.7.8.20)
C12Y 207/08021	. . Membrane-oligosaccharide glycerophosphotransferase (2.7.8.21)
C12Y 207/08022	. . 1-Alkenyl-2-acylglycerol choline phosphotransferase (2.7.8.22)
C12Y 207/08023	. . Carboxyvinyl-carboxyphosphonate phosphorylmutase (2.7.8.23)
C12Y 207/08024	. . Phosphatidylcholine synthase (2.7.8.24)
C12Y 207/08025	. . Triphosphoribosyl-dephospho-CoA synthase (2.7.8.25)
C12Y 207/08026	. . Adenosylcobinamide-GDP ribazoletransferase (2.7.8.26)
C12Y 207/08027	. . Sphingomyelin synthase (2.7.8.27)
C12Y 207/08028	. . 2-Phospho-L-lactate transferase (2.7.8.28)
C12Y 207/08029	. . L-Serine-phosphatidylethanolamine phosphatidyltransferase (2.7.8.29)
C12Y 207/0803	. . Undecaprenyl-phosphate 4-deoxy-4-formamido-L-arabinose transferase (2.7.8.30)
C12Y 207/08031	. . Undecaprenyl-phosphate glucose phosphotransferase (2.7.8.31)

C12Y 207/08032	. . 3-O-Alpha-D-mannopyranosyl-alpha-D-mannopyranose xylosylphosphotransferase (2.7.8.32)
C12Y 207/08033	. . UDP-GlcNAc:undecaprenyl-phosphate GlcNAc-1-phosphate transferase (2.7.8.33)
C12Y 207/08034	. . CDP-L-myo-inositol myo-inositolphosphotransferase (2.7.8.34)
C12Y 207/08035	. . UDP-N-acetylglucosamine—decaprenyl-phosphate N-acetylglucosaminephosphotransferase (2.7.8.35)
C12Y 207/08036	. . Undecaprenyl phosphate N,N'-diacetylbacillosamine 1-phosphate transferase (2.7.8.36)
C12Y 207/08037	. . Alpha-D-ribose 1-methylphosphonate 5-triphosphate synthase (2.7.8.37)
C12Y 207/09	. Phosphotransferases with paired acceptors (2.7.9)
C12Y 207/09001	. . Pyruvate, phosphate dikinase (2.7.9.1)
C12Y 207/09002	. . Pyruvate, water dikinase (2.7.9.2)
C12Y 207/09003	. . Selenide, water dikinase (2.7.9.3), i.e. selenophosphate-synthase
C12Y 207/09004	. . Alpha-glucan, water dikinase (2.7.9.4)
C12Y 207/09005	. . Phosphoglucan, water dikinase (2.7.9.5)
C12Y 207/10	. Protein-tyrosine kinases (2.7.10)
C12Y 207/10001	. . Receptor protein-tyrosine kinase (2.7.10.1)
C12Y 207/10002	. . Non-specific protein-tyrosine kinase (2.7.10.2), i.e. spleen tyrosine kinase
C12Y 207/11	. Protein-serine/threonine kinases (2.7.11)
C12Y 207/11001	. . Non-specific serine/threonine protein kinase (2.7.11.1), i.e. casein kinase or checkpoint kinase
C12Y 207/11002	. . [Pyruvate dehydrogenase (acetyl-transferring)] kinase (2.7.11.2)
C12Y 207/11003	. . Dephospho-[reductase kinase] kinase (2.7.11.3)
C12Y 207/11004	. . [3-Methyl-2-oxobutanoate dehydrogenase (acetyl-transferring)] kinase (2.7.11.4)
C12Y 207/11005	. . [Isocitrate dehydrogenase (NADP+)] kinase (2.7.11.5)
C12Y 207/11006	. . [Tyrosine 3-monooxygenase] kinase (2.7.11.6)
C12Y 207/11007	. . [Myosin-heavy-chain] kinase (2.7.11.7)
C12Y 207/11008	. . Fas-activated serine/threonine kinase (2.7.11.8)
C12Y 207/11009	. . Goodpasture-antigen-binding protein kinase (2.7.11.9)
C12Y 207/1101	. . IkappaB kinase (2.7.11.10)
C12Y 207/11011	. . cAMP-dependent protein kinase (2.7.11.11)
C12Y 207/11012	. . cGMP-dependent protein kinase (2.7.11.12)
C12Y 207/11013	. . Protein kinase C (2.7.11.13)
C12Y 207/11014	. . Rhodopsin kinase (2.7.11.14)
C12Y 207/11015	. . [Beta-adrenergic-receptor] kinase (2.7.11.15)
C12Y 207/11016	. . G-Protein-coupled receptor kinase (2.7.11.16)
C12Y 207/11017	. . Ca <sup>2+</sup> /Calmodulin-dependent protein kinase (2.7.11.17)
C12Y 207/11018	. . Myosin-light-chain kinase (2.7.11.18)
C12Y 207/11019	. . Phosphorylase kinase (2.7.11.19)
C12Y 207/1102	. . Elongation factor 2 kinase (2.7.11.20), i.e. eEF-2K
C12Y 207/11021	. . Polo kinase (2.7.11.21)



C12Y 207/11022	. . Cyclin-dependent kinase (2.7.11.22)
C12Y 207/11023	. . [RNA-polymerase-subunit] kinase (2.7.11.23)
C12Y 207/11024	. . Mitogen-activated protein kinase (2.7.11.24), i.e. MAPK or MAPK2 or c-Jun N-terminal kinase
C12Y 207/11025	. . Mitogen-activated protein kinase kinase kinase (2.7.11.25), i.e. MAPKKK or MAP3K
C12Y 207/11026	. . Tau-protein kinase (2.7.11.26)
C12Y 207/11027	. . [Acetyl-CoA carboxylase] kinase (2.7.11.27)
C12Y 207/11028	. . Tropomyosin kinase (2.7.11.28)
C12Y 207/11029	. . [Low-density-lipoprotein receptor] kinase (2.7.11.29)
C12Y 207/1103	. . Receptor protein serine/threonine kinase (2.7.11.30)
C12Y 207/11031	. . [Hydroxymethylglutaryl-CoA reductase (NADPH)] kinase (2.7.11.31)
C12Y 207/11032	. . [Pyruvate, phosphate dikinase] kinase (2.7.11.32)
C12Y 207/11033	. . [Pyruvate, water dikinase] kinase (2.7.11.33)
C12Y 207/12	. Dual-specificity kinases (2.7.12)
C12Y 207/12001	. . Dual-specificity kinase (2.7.12.1)
C12Y 207/12002	. . Mitogen-activated protein kinase kinase (2.7.12.2), i.e. MAPKK or MEK1 or MEK2
C12Y 207/13	. Protein-histidine kinases (2.7.13)
C12Y 207/13001	. . Protein-histidine pros-kinase (2.7.13.1)
C12Y 207/13002	. . Protein-histidine tele-kinase (2.7.13.2)
C12Y 207/13003	. . Histidine kinase (2.7.13.3)
C12Y 207/99	. Other protein kinases (2.7.99)
C12Y 207/99001	. . Triphosphate--protein phosphotransferase (2.7.99.1)

**C12Y 208/00****Transferases transferring sulfur-containing groups (2.8)**

C12Y 208/01	. Sulfurtransferases (2.8.1)
C12Y 208/01001	. . Thiosulfate sulfurtransferase (2.8.1.1)
C12Y 208/01002	. . 3-Mercaptopyruvate sulfurtransferase (2.8.1.2)
C12Y 208/01003	. . Thiosulfate--thiol sulfurtransferase (2.8.1.3)
C12Y 208/01004	. . tRNA sulfurtransferase (2.8.1.4)
C12Y 208/01005	. . Thiosulfate--dithiol sulfurtransferase (2.8.1.5)
C12Y 208/01006	. . Biotin synthase (2.8.1.6)
C12Y 208/01007	. . Cysteine desulfurase (2.8.1.7)
C12Y 208/01008	. . Lipoyl synthase (2.8.1.8)
C12Y 208/01009	. . Molybdenum cofactor sulfurtransferase (2.8.1.9)
C12Y 208/0101	. . Thiazole synthase (2.8.1.10)
C12Y 208/01011	. . Molybdopterin synthase sulfurtransferase (2.8.1.11)
C12Y 208/01012	. . Molybdopterin synthase (2.8.1.12)
C12Y 208/02	. Sulfotransferases (2.8.2)
C12Y 208/02001	. . Aryl sulfotransferase (2.8.2.1)
C12Y 208/02002	. . Alcohol sulfotransferase (2.8.2.2)
C12Y 208/02003	. . Amine sulfotransferase (2.8.2.3)

C12Y 208/02004	. . Estrone sulfotransferase (2.8.2.4)
C12Y 208/02005	. . Chondroitin 4-sulfotransferase (2.8.2.5)
C12Y 208/02006	. . Choline sulfotransferase (2.8.2.6)
C12Y 208/02007	. . UDP-N-acetylgalactosamine-4-sulfate sulfotransferase (2.8.2.7)
C12Y 208/02008	. . [Heparan sulfate]-glucosamine N-sulfotransferase (2.8.2.8)
C12Y 208/02009	. . Tyrosine-ester sulfotransferase (2.8.2.9)
C12Y 208/0201	. . Renilla-luciferin sulfotransferase (2.8.2.10)
C12Y 208/02011	. . Galactosylceramide sulfotransferase (2.8.2.11)
C12Y 208/02013	. . Psychosine sulfotransferase (2.8.2.13)
C12Y 208/02014	. . Bile-salt sulfotransferase (2.8.2.14)
C12Y 208/02015	. . Steroid sulfotransferase (2.8.2.15)
C12Y 208/02016	. . Thiol sulfotransferase (2.8.2.16)
C12Y 208/02017	. . Chondroitin 6-sulfotransferase (2.8.2.17)
C12Y 208/02018	. . Cortisol sulfotransferase (2.8.2.18)
C12Y 208/02019	. . Triglycosylalkylacylglycerol sulfotransferase (2.8.2.19)
C12Y 208/0202	. . Protein-tyrosine sulfotransferase (2.8.2.20)
C12Y 208/02021	. . Keratan sulfotransferase (2.8.2.21)
C12Y 208/02022	. . Aryl-sulfate sulfotransferase (2.8.2.22)
C12Y 208/02023	. . [Heparan sulfate]-glucosamine 3-sulfotransferase 1 (2.8.2.23)
C12Y 208/02024	. . Desulfoglucosinolate sulfotransferase (2.8.2.24)
C12Y 208/02025	. . Flavonol 3-sulfotransferase (2.8.2.25)
C12Y 208/02026	. . Quercetin-3-sulfate 3'-sulfotransferase (2.8.2.26)
C12Y 208/02027	. . Quercetin-3-sulfate 4'-sulfotransferase (2.8.2.27)
C12Y 208/02028	. . Quercetin-3,3'-bissulfate 7-sulfotransferase (2.8.2.28)
C12Y 208/02029	. . [Heparan sulfate]-glucosamine 3-sulfotransferase 2 (2.8.2.29)
C12Y 208/0203	. . [Heparan sulfate]-glucosamine 3-sulfotransferase 3 (2.8.2.30)
C12Y 208/02031	. . Petromyzonol sulfotransferase (2.8.2.31)
C12Y 208/02032	. . Scymnol sulfotransferase (2.8.2.32)
C12Y 208/02033	. . N-Acetylgalactosamine 4-sulfate 6-O-sulfotransferase (2.8.2.33)
C12Y 208/02034	. . Glycochenodeoxycholate sulfotransferase (2.8.2.34)
C12Y 208/02035	. . Dermatan 4-sulfotransferase (2.8.2.35)
C12Y 208/03	. CoA-transferases (2.8.3)
C12Y 208/03001	. . Propionate CoA-transferase (2.8.3.1)
C12Y 208/03002	. . Oxalate CoA-transferase (2.8.3.2)
C12Y 208/03003	. . Malonate CoA-transferase (2.8.3.3)
C12Y 208/03005	. . 3-Oxoacid CoA-transferase (2.8.3.5)
C12Y 208/03006	. . 3-Oxoadipate CoA-transferase (2.8.3.6)
C12Y 208/03007	. . Succinate--citramalate CoA-transferase (2.8.3.7)
C12Y 208/03008	. . Acetate CoA-transferase (2.8.3.8)
C12Y 208/03009	. . Butyrate--acetoacetate CoA-transferase (2.8.3.9)

C12Y 208/0301	. . Citrate CoA-transferase (2.8.3.10)
C12Y 208/03011	. . Citramalate CoA-transferase (2.8.3.11)
C12Y 208/03012	. . Glutaconate CoA-transferase (2.8.3.12)
C12Y 208/03013	. . Succinate--hydroxymethylglutarate CoA-transferase (2.8.3.13)
C12Y 208/03014	. . 5-Hydroxypentanoate CoA-transferase (2.8.3.14)
C12Y 208/03015	. . Succinyl-CoA:(R)-benzylsuccinate CoA-transferase (2.8.3.15)
C12Y 208/03016	. . Formyl-CoA transferase (2.8.3.16)
C12Y 208/03017	. . Cinnamoyl-CoA:phenyllactate CoA-transferase (2.8.3.17)
C12Y 208/04	. transferring alkylthio groups (2.8.4)
C12Y 208/04001	. . Coenzyme-B sulfoethylthiotransferase (2.8.4.1)
C12Y 208/04002	. . Arsenate-mycothiols transferase (2.8.4.2)
<b>C12Y 209/00</b>	<b>Transferases transferring selenium-containing groups (2.9)</b>
C12Y 209/01	. transferring selenium-containing groups (2.9.1)
C12Y 209/01001	. . L-Seryl-tRNA(Sec) selenium transferase (2.9.1.1)
C12Y 209/01002	. . O-Phospho-L-seryl-tRNA(Sec):L-selenocysteinyl-tRNA synthase (2.9.1.2)
<b>C12Y 210/00</b>	<b>Transferases transferring molybdenum- or tungsten-containing groups (2.10)</b>
C12Y 210/01	. Molybdenumtransferases or tungstenttransferases with sulfide groups as acceptors (2.10.1)
C12Y 210/01001	. . Molybdopterin molybdotransferase (2.10.1.1)
<b>C12Y 301/00</b>	<b>Hydrolases acting on ester bonds (3.1)</b>
C12Y 301/01	. Carboxylic ester hydrolases (3.1.1)
C12Y 301/01001	. . Carboxylesterase (3.1.1.1)
C12Y 301/01002	. . Arylesterase (3.1.1.2)
C12Y 301/01003	. . Triacylglycerol lipase (3.1.1.3)
C12Y 301/01004	. . Phospholipase A2 (3.1.1.4)
C12Y 301/01005	. . Lysophospholipase (3.1.1.5)
C12Y 301/01006	. . Acetylesterase (3.1.1.6)
C12Y 301/01007	. . Acetylcholinesterase (3.1.1.7)
C12Y 301/01008	. . Cholinesterase (3.1.1.8), i.e. butyrylcholine-esterase
C12Y 301/0101	. . Tropinesterase (3.1.1.10)
C12Y 301/01011	. . Pectinesterase (3.1.1.11)
C12Y 301/01013	. . Sterol esterase (3.1.1.13)
C12Y 301/01014	. . Chlorophyllase (3.1.1.14)
C12Y 301/01015	. . L-Arabinonolactonase (3.1.1.15)
C12Y 301/01016	. . 4-Carboxymethyl-4-hydroxyisocrotonolactonase (3.1.1.16) ( <a href="#">C12Y 301/01024</a> , <a href="#">C12Y 503/03004</a> take precedence)
C12Y 301/01017	. . Gluconolactonase (3.1.1.17)
C12Y 301/01019	. . Uronolactonase (3.1.1.19)
C12Y 301/0102	. . Tannase (3.1.1.20)

C12Y 301/01021	. . Retinyl-palmitate esterase (3.1.1.21) ( <a href="#">C12Y 301/01001</a> , <a href="#">C12Y 301/01003</a> take precedence)
C12Y 301/01022	. . Hydroxybutyrate-dimer hydrolase (3.1.1.22)
C12Y 301/01023	. . Acylglycerol lipase (3.1.1.23)
C12Y 301/01024	. . 3-Oxoadipate enol-lactonase (3.1.1.24)
C12Y 301/01025	. . 1,4-Lactonase (3.1.1.25)
C12Y 301/01026	. . Galactolipase (3.1.1.26)
C12Y 301/01027	. . 4-Pyridoxolactonase (3.1.1.27)
C12Y 301/01028	. . Acylcarnitine hydrolase (3.1.1.28)
C12Y 301/01029	. . Aminoacyl-tRNA hydrolase (3.1.1.29)
C12Y 301/0103	. . D-Arabinonolactonase (3.1.1.30)
C12Y 301/01031	. . 6-Phosphogluconolactonase (3.1.1.31)
C12Y 301/01032	. . Phospholipase A1 (3.1.1.32)
C12Y 301/01033	. . 6-Acetylglucose deacetylase (3.1.1.33)
C12Y 301/01034	. . Lipoprotein lipase (3.1.1.34)
C12Y 301/01035	. . Dihydrocoumarin hydrolase (3.1.1.35)
C12Y 301/01036	. . Limonin-D-ring-lactonase (3.1.1.36)
C12Y 301/01037	. . Steroid-lactonase (3.1.1.37)
C12Y 301/01038	. . Triacetate-lactonase (3.1.1.38)
C12Y 301/01039	. . Actinomycin lactonase (3.1.1.39)
C12Y 301/0104	. . Orsellinate-depside hydrolase (3.1.1.40)
C12Y 301/01041	. . Cephalosporin-C deacetylase (3.1.1.41)
C12Y 301/01042	. . Chlorogenate hydrolase (3.1.1.42)
C12Y 301/01043	. . Alpha-amino-acid esterase (3.1.1.43)
C12Y 301/01044	. . 4-Methyloxaloacetate esterase (3.1.1.44)
C12Y 301/01045	. . Carboxymethylenebutenolidase (3.1.1.45)
C12Y 301/01046	. . Deoxylimonate A-ring-lactonase (3.1.1.46)
C12Y 301/01047	. . 1-Alkyl-2-acetylgllycerophosphocholine esterase (3.1.1.47), i.e. platelet-activating factor acetylhydrolase
C12Y 301/01048	. . Fusarinine-C ornithinesterase (3.1.1.48)
C12Y 301/01049	. . Sinapine esterase (3.1.1.49)
C12Y 301/0105	. . Wax-ester hydrolase (3.1.1.50)
C12Y 301/01051	. . Phorbol-diester hydrolase (3.1.1.51)
C12Y 301/01052	. . Phosphatidylinositol deacylase (3.1.1.52)
C12Y 301/01053	. . Sialate O-acetylesterase (3.1.1.53)
C12Y 301/01054	. . Acetoxybutynylbithiophene deacetylase (3.1.1.54)
C12Y 301/01055	. . Acetylsalicylate deacetylase (3.1.1.55)
C12Y 301/01056	. . Methylumbelliferyl-acetate deacetylase (3.1.1.56)
C12Y 301/01057	. . 2-Pyrone-4,6-dicarboxylate lactonase (3.1.1.57)
C12Y 301/01058	. . N-Acetylgalactosaminoglycan deacetylase (3.1.1.58)

C12Y 301/01059	. . Juvenile-hormone esterase (3.1.1.59)
C12Y 301/0106	. . Bis(2-ethylhexyl)phthalate esterase (3.1.1.60)
C12Y 301/01061	. . Protein-glutamate methylesterase (3.1.1.61)
C12Y 301/01063	. . 11-Cis-retinyl-palmitate hydrolase (3.1.1.63)
C12Y 301/01064	. . Retinoid isomerohydrolase (3.1.1.64)
C12Y 301/01065	. . L-Rhamnono-1,4-lactonase (3.1.1.65)
C12Y 301/01066	. . 5-(3,4-Diacetoxybut-1-ynyl)-2,2'-bithiophene deacetylase (3.1.1.66)
C12Y 301/01067	. . Fatty-acyl-ethyl-ester synthase (3.1.1.67)
C12Y 301/01068	. . Xylono-1,4-lactonase (3.1.1.68)
C12Y 301/0107	. . Cetraxate benzylesterase (3.1.1.70)
C12Y 301/01071	. . Acetylalkylglycerol acetylhydrolase (3.1.1.71)
C12Y 301/01072	. . Acetylxylylan esterase (3.1.1.72)
C12Y 301/01073	. . Feruloyl esterase (3.1.1.73)
C12Y 301/01074	. . Cutinase (3.1.1.74)
C12Y 301/01075	. . Poly(3-hydroxybutyrate) depolymerase (3.1.1.75)
C12Y 301/01076	. . Poly(3-hydroxyoctanoate) depolymerase (3.1.1.76)
C12Y 301/01077	. . Acyloxyacyl hydrolase (3.1.1.77)
C12Y 301/01078	. . Polyneuridine-aldehyde esterase (3.1.1.78)
C12Y 301/01079	. . Hormone-sensitive lipase (3.1.1.79)
C12Y 301/0108	. . Acetylajmaline esterase (3.1.1.80)
C12Y 301/01081	. . Quorum-quenching N-acyl-homoserine lactonase (3.1.1.81)
C12Y 301/01082	. . Pheophorbide (3.1.1.82)
C12Y 301/01083	. . Monoterpene epsilon-lactone hydrolase (3.1.1.83)
C12Y 301/01084	. . Cocaine esterase (3.1.1.84)
C12Y 301/01085	. . Pimelyl-[acyl-carrier protein] methyl ester esterase (3.1.1.85)
C12Y 301/01086	. . Rhamnogalacturonan acetylesterase (3.1.1.86)
C12Y 301/01087	. . Fumonisin B1 esterase (3.1.1.87)
C12Y 301/01088	. . Pyrethroid hydrolase (3.1.1.88)
C12Y 301/01089	. . Protein phosphatase methylesterase-1 (3.1.1.89)
C12Y 301/0109	. . All-trans-retinyl ester 13-cis isomerohydrolase (3.1.1.90)
C12Y 301/01091	. . 2-Oxo-3-(5-oxofuran-2-ylidene)propanoate lactonase (3.1.1.91)
C12Y 301/01092	. . 4-Sulfomuconolactone hydrolase (3.1.1.92)
C12Y 301/01093	. . Mycophenolic acid acyl-glucuronide esterase (3.1.1.93)
C12Y 301/02	. Thioester hydrolases (3.1.2)
C12Y 301/02001	. . Acetyl-CoA hydrolase (3.1.2.1)
C12Y 301/02002	. . Palmitoyl-CoA hydrolase (3.1.2.2)
C12Y 301/02003	. . Succinyl-CoA hydrolase (3.1.2.3)
C12Y 301/02004	. . 3-Hydroxyisobutyryl-CoA hydrolase (3.1.2.4)
C12Y 301/02005	. . Hydroxymethylglutaryl-CoA hydrolase (3.1.2.5)
C12Y 301/02006	. . Hydroxyacylglutathione hydrolase (3.1.2.6)

C12Y 301/02007	. .	Glutathione thiolesterase (3.1.2.7)
C12Y 301/0201	. .	Formyl-CoA hydrolase (3.1.2.10)
C12Y 301/02011	. .	Acetoacetyl-CoA hydrolase (3.1.2.11)
C12Y 301/02012	. .	S-Formylglutathione hydrolase (3.1.2.12)
C12Y 301/02013	. .	S-Succinylglutathione hydrolase (3.1.2.13)
C12Y 301/02014	. .	Oleoyl-[acyl-carrier-protein] hydrolase (3.1.2.14), i.e. ACP-thioesterase
C12Y 301/02015	. .	Ubiquitin thiolesterase (3.1.2.15)
C12Y 301/02016	. .	Citrate-lyase deacetylase (3.1.2.16)
C12Y 301/02017	. .	(S)-Methylmalonyl-CoA hydrolase (3.1.2.17)
C12Y 301/02018	. .	ADP-dependent short-chain-acyl-CoA hydrolase (3.1.2.18)
C12Y 301/02019	. .	ADP-dependent medium-chain-acyl-CoA hydrolase (3.1.2.19)
C12Y 301/0202	. .	Acyl-CoA hydrolase (3.1.2.20)
C12Y 301/02021	. .	Dodecanoyl-[acyl-carrier-protein] hydrolase (3.1.2.21)
C12Y 301/02022	. .	Palmitoyl-protein hydrolase (3.1.2.22)
C12Y 301/02023	. .	4-Hydroxybenzoyl-CoA thioesterase (3.1.2.23)
C12Y 301/02025	. .	Phenylacetyl-CoA hydrolase (3.1.2.25)
C12Y 301/02026	. .	Bile-acid-CoA hydrolase (3.1.2.26)
C12Y 301/02027	. .	Choloyl-CoA hydrolase (3.1.2.27)
C12Y 301/02028	. .	1,4-Dihydroxy-2-naphthoyl-CoA hydrolase (3.1.2.28)
C12Y 301/02029	. .	Fluoroacetyl-CoA thioesterase (3.1.2.29)
C12Y 301/03	. .	Phosphoric monoester hydrolases (3.1.3)
C12Y 301/03001	. .	Alkaline phosphatase (3.1.3.1)
C12Y 301/03002	. .	Acid phosphatase (3.1.3.2)
C12Y 301/03003	. .	Phosphoserine phosphatase (3.1.3.3)
C12Y 301/03004	. .	Phosphatidate phosphatase (3.1.3.4)
C12Y 301/03005	. .	5'-Nucleotidase (3.1.3.5)
C12Y 301/03006	. .	3'-Nucleotidase (3.1.3.6)
C12Y 301/03007	. .	3'(2'),5'-Bisphosphate nucleotidase (3.1.3.7)
C12Y 301/03008	. .	3-Phytase (3.1.3.8)
C12Y 301/03009	. .	Glucose-6-phosphatase (3.1.3.9)
C12Y 301/0301	. .	Glucose-1-phosphatase (3.1.3.10)
C12Y 301/03011	. .	Fructose-bisphosphatase (3.1.3.11)
C12Y 301/03012	. .	Trehalose-phosphatase (3.1.3.12)
C12Y 301/03013	. .	Bisphosphoglycerate phosphatase (3.1.3.13)
C12Y 301/03014	. .	Methylphosphothioglycerate phosphatase (3.1.3.14)
C12Y 301/03015	. .	Histidinol-phosphatase (3.1.3.15)
C12Y 301/03016	. .	Phosphoprotein phosphatase (3.1.3.16), i.e. calcineurin
C12Y 301/03017	. .	[Phosphorylase] phosphatase (3.1.3.17)
C12Y 301/03018	. .	Phosphoglycolate phosphatase (3.1.3.18)
C12Y 301/03019	. .	Glycerol-2-phosphatase (3.1.3.19)



C12Y 301/0302	. .	Phosphoglycerate phosphatase (3.1.3.20)
C12Y 301/03021	. .	Glycerol-1-phosphatase (3.1.3.21)
C12Y 301/03022	. .	Mannitol-1-phosphatase (3.1.3.22)
C12Y 301/03023	. .	Sugar-phosphatase (3.1.3.23)
C12Y 301/03024	. .	Sucrose-phosphate phosphatase (3.1.3.24)
C12Y 301/03025	. .	Inositol-phosphate phosphatase (3.1.3.25)
C12Y 301/03026	. .	4-Phytase (3.1.3.26), i.e. 6-phytase
C12Y 301/03027	. .	Phosphatidylglycerophosphatase (3.1.3.27)
C12Y 301/03028	. .	ADP-phosphoglycerate phosphatase (3.1.3.28)
C12Y 301/03029	. .	N-Acylneuraminate-9-phosphatase (3.1.3.29)
C12Y 301/03031	. .	Nucleotidase (3.1.3.31)
C12Y 301/03032	. .	Polynucleotide 3'-phosphatase (3.1.3.32)
C12Y 301/03033	. .	Polynucleotide 5'-phosphatase (3.1.3.33)
C12Y 301/03034	. .	Deoxynucleotide 3'-phosphatase (3.1.3.34)
C12Y 301/03035	. .	Thymidylate 5'-phosphatase (3.1.3.35)
C12Y 301/03036	. .	Phosphoinositide 5-phosphatase (3.1.3.36)
C12Y 301/03037	. .	Sedoheptulose-bisphosphatase (3.1.3.37)
C12Y 301/03038	. .	3-Phosphoglycerate phosphatase (3.1.3.38)
C12Y 301/03039	. .	Streptomycin-6-phosphatase (3.1.3.39)
C12Y 301/0304	. .	Guanidinodeoxy-scyllo-inositol-4-phosphatase (3.1.3.40)
C12Y 301/03041	. .	4-Nitrophenylphosphatase (3.1.3.41)
C12Y 301/03042	. .	[Glycogen-synthase-D] phosphatase (3.1.3.42)
C12Y 301/03043	. .	[Pyruvate dehydrogenase (acetyl-transferring)]-phosphatase (3.1.3.43)
C12Y 301/03044	. .	[Acetyl-CoA carboxylase]-phosphatase (3.1.3.44)
C12Y 301/03045	. .	3-Deoxy-manno-octulosonate-8-phosphatase (3.1.3.45)
C12Y 301/03046	. .	Fructose-2,6-bisphosphate 2-phosphatase (3.1.3.46)
C12Y 301/03047	. .	[Hydroxymethylglutaryl-CoA reductase (NADPH)]-phosphatase (3.1.3.47)
C12Y 301/03048	. .	Protein-tyrosine-phosphatase (3.1.3.48)
C12Y 301/03049	. .	[Pyruvate kinase]-phosphatase (3.1.3.49)
C12Y 301/0305	. .	Sorbitol-6-phosphatase (3.1.3.50)
C12Y 301/03051	. .	Dolichyl-phosphatase (3.1.3.51)
C12Y 301/03052	. .	[3-Methyl-2-oxobutanoate dehydrogenase (2-methylpropanoyl-transferring)]-phosphatase (3.1.3.52)
C12Y 301/03053	. .	[Myosin-light-chain] phosphatase (3.1.3.53)
C12Y 301/03054	. .	Fructose-2,6-bisphosphate 6-phosphatase (3.1.3.54)
C12Y 301/03055	. .	Caldesmon-phosphatase (3.1.3.55)
C12Y 301/03056	. .	Inositol-polyphosphate 5-phosphatase (3.1.3.56)
C12Y 301/03057	. .	Inositol-1,4-bisphosphate 1-phosphatase (3.1.3.57)
C12Y 301/03058	. .	Sugar-terminal-phosphatase (3.1.3.58)
C12Y 301/03059	. .	Alkylacetyl glycerophosphatase (3.1.3.59)

C12Y 301/0306	. . Phosphoenolpyruvate phosphatase (3.1.3.60)
C12Y 301/03062	. . Multiple inositol-polyphosphate phosphatase (3.1.3.62)
C12Y 301/03063	. . 2-Carboxy-D-arabinitol-1-phosphatase (3.1.3.63)
C12Y 301/03064	. . Phosphatidylinositol-3-phosphatase (3.1.3.64)
C12Y 301/03066	. . Phosphatidylinositol-3,4-bisphosphate 4-phosphatase (3.1.3.66)
C12Y 301/03067	. . Phosphatidylinositol-3,4,5-trisphosphate 3-phosphatase (3.1.3.67)
C12Y 301/03068	. . 2-Deoxyglucose-6-phosphatase (3.1.3.68)
C12Y 301/03069	. . Glucosylglycerol 3-phosphatase (3.1.3.69)
C12Y 301/0307	. . Mannosyl-3-phosphoglycerate phosphatase (3.1.3.70)
C12Y 301/03071	. . 2-Phosphosulfolactate phosphatase (3.1.3.71)
C12Y 301/03072	. . 5-Phytase (3.1.3.72)
C12Y 301/03073	. . Adenosylcobalamin/alpha-ribazole phosphatase (3.1.3.73)
C12Y 301/03074	. . Pyridoxal phosphatase (3.1.3.74)
C12Y 301/03075	. . Phosphoethanolamine/phosphocholine phosphatase (3.1.3.75)
C12Y 301/03076	. . Lipid-phosphate phosphatase (3.1.3.76)
C12Y 301/03077	. . Acireductone synthase (3.1.3.77)
C12Y 301/03078	. . Phosphatidylinositol-4,5-bisphosphate 4-phosphatase (3.1.3.78)
C12Y 301/03079	. . Mannosylfructose-phosphate phosphatase (3.1.3.79)
C12Y 301/0308	. . 2,3-Bisphosphoglycerate 3-phosphatase (3.1.3.80)
C12Y 301/03081	. . Diacylglycerol diphosphate phosphatase (3.1.3.81)
C12Y 301/03082	. . D-Glycero-beta-D-manno-heptose 1,7-bisphosphate 7-phosphatase (3.1.3.82)
C12Y 301/03083	. . D-Glycero-alpha-D-manno-heptose-1,7-bisphosphate 7-phosphatase (3.1.3.83)
C12Y 301/03084	. . ADP-ribose 1''-phosphate phosphatase (3.1.3.84)
C12Y 301/03085	. . Glucosyl-3-phosphoglycerate phosphatase (3.1.3.85)
C12Y 301/03086	. . Phosphatidylinositol-3,4,5-trisphosphate 5-phosphatase (3.1.3.86)
C12Y 301/03087	. . 2-Hydroxy-3-keto-5-methylthiopentenyl-1-phosphate phosphatase (3.1.3.87)
C12Y 301/03088	. . 5''-Phosphoribostamycin phosphatase (3.1.3.88)
C12Y 301/04	. Phosphoric diester hydrolases (3.1.4)
C12Y 301/04001	. . Phosphodiesterase I (3.1.4.1)
C12Y 301/04002	. . Glycerophosphocholine phosphodiesterase (3.1.4.2)
C12Y 301/04003	. . Phospholipase C (3.1.4.3)
C12Y 301/04004	. . Phospholipase D (3.1.4.4)
C12Y 301/04011	. . Phosphoinositide phospholipase C (3.1.4.11)
C12Y 301/04012	. . Sphingomyelin phosphodiesterase (3.1.4.12)
C12Y 301/04013	. . Serine-ethanolaminephosphate phosphodiesterase (3.1.4.13)
C12Y 301/04014	. . [Acyl-carrier-protein] phosphodiesterase (3.1.4.14)
C12Y 301/04015	. . Adenylyl-[glutamate--ammonia ligase] hydrolase (3.1.4.15)
C12Y 301/04016	. . 2',3'-Cyclic-nucleotide 2'-phosphodiesterase (3.1.4.16)
C12Y 301/04017	. . 3',5'-Cyclic-nucleotide phosphodiesterase (3.1.4.17)
C12Y 301/04035	. . 3',5'-Cyclic-GMP phosphodiesterase (3.1.4.35)

C12Y 301/04037	. . 2',3'-Cyclic-nucleotide 3'-phosphodiesterase (3.1.4.37)
C12Y 301/04038	. . Glycerophosphocholine cholinephosphodiesterase (3.1.4.38)
C12Y 301/04039	. . Alkylglycerophosphoethanolamine phosphodiesterase (3.1.4.39)
C12Y 301/0404	. . CMP-N-acylneuraminate phosphodiesterase (3.1.4.40)
C12Y 301/04041	. . Sphingomyelin phosphodiesterase D (3.1.4.41)
C12Y 301/04042	. . Glycerol-1,2-cyclic-phosphate 2-phosphodiesterase (3.1.4.42)
C12Y 301/04043	. . Glycerophosphoinositol inositolphosphodiesterase (3.1.4.43)
C12Y 301/04044	. . Glycerophosphoinositol glycerophosphodiesterase (3.1.4.44)
C12Y 301/04045	. . N-Acetylglucosamine-1-phosphodiester alpha-N-acetylglucosaminidase (3.1.4.45)
C12Y 301/04046	. . Glycerophosphodiester phosphodiesterase (3.1.4.46)
C12Y 301/04048	. . Dolichylphosphate-glucose phosphodiesterase (3.1.4.48)
C12Y 301/04049	. . Dolichylphosphate-mannose phosphodiesterase (3.1.4.49)
C12Y 301/0405	. . Glycosylphosphatidylinositol phospholipase D (3.1.4.50)
C12Y 301/04051	. . Glucose-1-phospho-D-mannosylglycoprotein phosphodiesterase (3.1.4.51)
C12Y 301/04052	. . Cyclic-guanylate-specific phosphodiesterase (3.1.4.52)
C12Y 301/04053	. . 3',5'-Cyclic-AMP phosphodiesterase (3.1.4.53)
C12Y 301/04054	. . N-Acetylphosphatidylethanolamine-hydrolyzing phospholipase D (3.1.4.54)
C12Y 301/05	. Triphosphoric monoester hydrolases (3.1.5)
C12Y 301/05001	. . dGTPase (3.1.5.1)
C12Y 301/06	. Sulfuric ester hydrolases (3.1.6)
C12Y 301/06001	. . Arylsulfatase (3.1.6.1)
C12Y 301/06002	. . Steryl-sulfatase (3.1.6.2)
C12Y 301/06003	. . Glycosulfatase (3.1.6.3)
C12Y 301/06004	. . N-Acetylgalactosamine-6-sulfatase (3.1.6.4)
C12Y 301/06006	. . Choline-sulfatase (3.1.6.6)
C12Y 301/06007	. . Cellulose-polysulfatase (3.1.6.7)
C12Y 301/06008	. . Cerebroside-sulfatase (3.1.6.8)
C12Y 301/06009	. . Chondro-4-sulfatase (3.1.6.9)
C12Y 301/0601	. . Chondro-6-sulfatase (3.1.6.10)
C12Y 301/06011	. . Disulfoglucosamine-6-sulfatase (3.1.6.11)
C12Y 301/06012	. . N-Acetylgalactosamine-4-sulfatase (3.1.6.12)
C12Y 301/06013	. . Iduronate-2-sulfatase (3.1.6.13)
C12Y 301/06014	. . N-Acetylglucosamine-6-sulfatase (3.1.6.14)
C12Y 301/06015	. . N-Sulfoglucosamine-3-sulfatase (3.1.6.15)
C12Y 301/06016	. . Monomethyl-sulfatase (3.1.6.16)
C12Y 301/06017	. . D-Lactate-2-sulfatase (3.1.6.17)
C12Y 301/06018	. . Glucuronate-2-sulfatase (3.1.6.18)
C12Y 301/07	. Diphosphoric monoester hydrolases (3.1.7)
C12Y 301/07001	. . Prenyl-diphosphatase (3.1.7.1)
C12Y 301/07002	. . Guanosine-3',5'-bis(diphosphate) 3'-diphosphatase (3.1.7.2)

C12Y 301/07003	. . Monoterpenyl-diphosphatase (3.1.7.3)
C12Y 301/07004	. . Sclareol cyclase (3.1.7.4)
C12Y 301/07005	. . Geranylgeranyl diphosphate diphosphatase (3.1.7.5)
C12Y 301/07006	. . Farnesyl diphosphatase (3.1.7.6)
C12Y 301/07007	. . Drimenol cyclase (3.1.7.7)
C12Y 301/07008	. . Tuberculosinol synthase (3.1.7.8)
C12Y 301/07009	. . Isotuberculosinol synthase (3.1.7.9)
C12Y 301/0701	. . (13E)-Labda-7,13-dien-15-ol synthase (3.1.7.10)
C12Y 301/07011	. . Geranyl diphosphate diphosphatase (3.1.7.11)
C12Y 301/08	. Phosphoric triester hydrolases (3.1.8)
C12Y 301/08001	. . Aryldialkylphosphatase (3.1.8.1), i.e. paraoxonase
C12Y 301/08002	. . Diisopropyl-fluorophosphatase (3.1.8.2)
C12Y 301/11	. Exodeoxyribonucleases producing 5'-phosphomonoesters (3.1.11)
C12Y 301/11001	. . Exodeoxyribonuclease I (3.1.11.1)
C12Y 301/11002	. . Exodeoxyribonuclease III (3.1.11.2)
C12Y 301/11003	. . Exodeoxyribonuclease (lambda-induced) (3.1.11.3)
C12Y 301/11004	. . Exodeoxyribonuclease (phage SP3-induced)(3.1.11.4)
C12Y 301/11005	. . Exodeoxyribonuclease V (3.1.11.5)
C12Y 301/11006	. . Exodeoxyribonuclease VII (3.1.11.6)
C12Y 301/13	. Exoribonucleases producing 5'-phosphomonoesters (3.1.13)
C12Y 301/13001	. . Exoribonuclease II (3.1.13.1)
C12Y 301/13002	. . Exoribonuclease H (3.1.13.2)
C12Y 301/13003	. . Oligonucleotidase (3.1.13.3)
C12Y 301/13004	. . Poly(A)-specific ribonuclease (3.1.13.4)
C12Y 301/13005	. . Ribonuclease D (3.1.13.5)
C12Y 301/14	. Exoribonucleases producing 3'-phosphomonoesters (3.1.14)
C12Y 301/14001	. . Yeast ribonuclease (3.1.14.1)
C12Y 301/15	. Exonucleases active with either ribo- or deoxyribonucleic acids and producing 5'-phosphomonoesters (3.1.15)
C12Y 301/15001	. . Venom exonuclease (3.1.15.1)
C12Y 301/16	. Exonucleases active with either ribo- or deoxyribonucleic acids and producing 3'-phosphomonoesters (3.16)
C12Y 301/16001	. . Spleen exonuclease (3.1.16.1), i.e. 5->3 exoribonuclease
C12Y 301/21	. Endodeoxyribonucleases producing 5'-phosphomonoesters (3.1.21)
C12Y 301/21001	. . Deoxyribonuclease I (3.1.21.1)
C12Y 301/21002	. . Deoxyribonuclease IV (phage-T(4)-induced)(3.1.21.2)
C12Y 301/21003	. . Type I site-specific deoxyribonuclease (3.1.21.3)
C12Y 301/21004	. . Type II site-specific deoxyribonuclease (3.1.21.4)
C12Y 301/21005	. . Type III site-specific deoxyribonuclease (3.1.21.5)
C12Y 301/21006	. . CC-preferring endodeoxyribonuclease (3.1.21.6)

C12Y 301/21007	. . Deoxyribonuclease V (3.1.21.7)
C12Y 301/22	. Endodeoxyribonucleases producing 3'-phosphomonoesters (3.1.22)
C12Y 301/22001	. . Deoxyribonuclease II (3.1.22.1)
C12Y 301/22002	. . Aspergillus deoxyribonuclease K(1) (3.1.22.2)
C12Y 301/22004	. . Crossover junction endodeoxyribonuclease (3.1.22.4)
C12Y 301/22005	. . Deoxyribonuclease X (3.1.22.5)
C12Y 301/25	. Site-specific endodeoxyribonucleases specific for altered bases (3.1.25)
C12Y 301/25001	. . Deoxyribonuclease (pyrimidine dimer)(3.1.25.1)
C12Y 301/26	. Endoribonucleases producing 5'-phosphomonoesters (3.1.26)
C12Y 301/26001	. . Physarum polycephalum ribonuclease (3.1.26.1)
C12Y 301/26002	. . Ribonuclease alpha (3.1.26.2)
C12Y 301/26003	. . Ribonuclease III (3.1.26.3)
C12Y 301/26004	. . Ribonuclease H (3.1.26.4)
C12Y 301/26005	. . Ribonuclease P (3.1.26.5)
C12Y 301/26006	. . Ribonuclease IV (3.1.26.6)
C12Y 301/26007	. . Ribonuclease P4 (3.1.26.7)
C12Y 301/26008	. . Ribonuclease M5 (3.1.26.8)
C12Y 301/26009	. . Ribonuclease (poly-(U)-specific)(3.1.26.9)
C12Y 301/2601	. . Ribonuclease IX (3.1.26.10)
C12Y 301/26011	. . tRNase Z (3.1.26.11)
C12Y 301/26012	. . Ribonuclease E (3.1.26.12)
C12Y 301/26013	. . Retroviral ribonuclease H (3.1.26.13)
C12Y 301/27	. Endoribonucleases producing 3'-phosphomonoesters (3.1.27)
C12Y 301/27001	. . Ribonuclease T2 (3.1.27.1)
C12Y 301/27002	. . Bacillus subtilis ribonuclease (3.1.27.2)
C12Y 301/27003	. . Ribonuclease T1 (3.1.27.3)
C12Y 301/27004	. . Ribonuclease U2 (3.1.27.4)
C12Y 301/27005	. . Pancreatic ribonuclease (3.1.27.5)
C12Y 301/27006	. . Enterobacter ribonuclease (3.1.27.6)
C12Y 301/27007	. . Ribonuclease F (3.1.27.7)
C12Y 301/27008	. . Ribonuclease V (3.1.27.8)
C12Y 301/27009	. . tRNA-intron endonuclease (3.1.27.9)
C12Y 301/2701	. . rRNA endonuclease (3.1.27.10)
C12Y 301/30	. Endoribonucleases active with either ribo- or deoxyribonucleic acids and producing 5'-phosphomonoesters (3.1.30)
C12Y 301/30001	. . Aspergillus nuclease S1 (3.1.30.1)
C12Y 301/30002	. . Serratia marcescens nuclease (3.1.30.2)
C12Y 301/31	. Endoribonucleases active with either ribo- or deoxyribonucleic acids and producing 3'-phosphomonoesters (3.1.31)
C12Y 301/31001	. . Micrococcal nuclease (3.1.31.1)

**C12Y 302/00****Hydrolases acting on glycosyl compounds, i.e. glycosylases (3.2)**

- C12Y 302/01 . Glycosidases, i.e. enzymes hydrolysing O- and S-glycosyl compounds (3.2.1)
- C12Y 302/01001 . . Alpha-amylase (3.2.1.1)
- C12Y 302/01002 . . Beta-amylase (3.2.1.2)
- C12Y 302/01003 . . Glucan 1,4-alpha-glucosidase (3.2.1.3), i.e. glucoamylase
- C12Y 302/01004 . . Cellulase (3.2.1.4), i.e. endo-1,4-beta-glucanase
- C12Y 302/01006 . . Endo-1,3(4)-beta-glucanase (3.2.1.6)
- C12Y 302/01007 . . Inulinase (3.2.1.7)
- C12Y 302/01008 . . Endo-1,4-beta-xylanase (3.2.1.8)
- C12Y 302/0101 . . Oligo-1,6-glucosidase (3.2.1.10), i.e. sucrase
- C12Y 302/01011 . . Dextranase (3.2.1.11)
- C12Y 302/01014 . . Chitinase (3.2.1.14)
- C12Y 302/01015 . . Polygalacturonase (3.2.1.15)
- C12Y 302/01017 . . Lysozyme (3.2.1.17)
- C12Y 302/01018 . . Exo-alpha-sialidase (3.2.1.18), i.e. trans-sialidase
- C12Y 302/01019 . . Heparinase (3.2.1.19)
- C12Y 302/0102 . . Alpha-glucosidase (3.2.1.20)
- C12Y 302/01021 . . Beta-glucosidase (3.2.1.21)
- C12Y 302/01022 . . Alpha-galactosidase (3.2.1.22)
- C12Y 302/01023 . . Beta-galactosidase (3.2.1.23), i.e. exo-(1-->4)-beta-D-galactanase
- C12Y 302/01024 . . Alpha-mannosidase (3.2.1.24)
- C12Y 302/01025 . . Beta-mannosidase (3.2.1.25), i.e. mannanase
- C12Y 302/01026 . . Beta-fructofuranosidase (3.2.1.26), i.e. invertase
- C12Y 302/01028 . . Alpha,alpha-trehalase (3.2.1.28)
- C12Y 302/01031 . . Beta-glucuronidase (3.2.1.31)
- C12Y 302/01032 . . Xylan endo-1,3-beta-xylosidase (3.2.1.32), i.e. endo-1-3-beta-xylanase
- C12Y 302/01033 . . Amylo-alpha-1,6-glucosidase (3.2.1.33)
- C12Y 302/01035 . . Hyaluronoglucosaminidase (3.2.1.35), i.e. hyaluronidase
- C12Y 302/01036 . . Hyaluronoglucuronidase (3.2.1.36)
- C12Y 302/01037 . . Xylan 1,4-beta-xylosidase (3.2.1.37)
- C12Y 302/01038 . . Beta-D-fucosidase (3.2.1.38)
- C12Y 302/01039 . . Glucan endo-1,3-beta-D-glucosidase (3.2.1.39)
- C12Y 302/0104 . . Alpha-L-rhamnosidase (3.2.1.40)
- C12Y 302/01041 . . Pullulanase (3.2.1.41)
- C12Y 302/01042 . . GDP-glucosidase (3.2.1.42)
- C12Y 302/01043 . . Beta-L-rhamnosidase (3.2.1.43)
- C12Y 302/01044 . . Fucoidanase (3.2.1.44)
- C12Y 302/01045 . . Glucosylceramidase (3.2.1.45), i.e. beta-glucocerebrosidase
- C12Y 302/01046 . . Galactosylceramidase (3.2.1.46)



C12Y 302/01047	. . Galactosylgalactosylglucosylceramidase (3.2.1.47)
C12Y 302/01048	. . Sucrose alpha-glucosidase (3.2.1.48), i.e. sucrase
C12Y 302/01049	. . Alpha-N-acetylgalactosaminidase (3.2.1.49)
C12Y 302/0105	. . Alpha-N-acetylglucosaminidase (3.2.1.50)
C12Y 302/01051	. . Alpha-L-fucosidase (3.2.1.51)
C12Y 302/01052	. . Beta-N-acetylhexosaminidase (3.2.1.52)
C12Y 302/01053	. . Beta-N-acetylgalactosaminidase (3.2.1.53)
C12Y 302/01054	. . Cyclomaltodextrinase (3.2.1.54), i.e. cyclodextrinase
C12Y 302/01055	. . Alpha-N-arabinofuranosidase (3.2.1.55)
C12Y 302/01056	. . Glucuronosyl-disulfoglucosamine glucuronidase (3.2.1.56), i.e. glucuronidase
C12Y 302/01057	. . Isopullulanase (3.2.1.57)
C12Y 302/01058	. . Glucan 1,3-beta-glucosidase (3.2.1.58)
C12Y 302/01059	. . Glucan endo-1,3-alpha-glucosidase (3.2.1.59)
C12Y 302/0106	. . Glucan 1,4-alpha-maltotetraohydrolase (3.2.1.60)
C12Y 302/01061	. . Mycodextranase (3.2.1.61)
C12Y 302/01062	. . Glycosylceramidase (3.2.1.62)
C12Y 302/01063	. . 1,2-Alpha-L-fucosidase (3.2.1.63)
C12Y 302/01064	. . 2,6-Beta-fructan 6-levanbiohydrolase (3.2.1.64)
C12Y 302/01065	. . Levanase (3.2.1.65)
C12Y 302/01066	. . Quercitrinase (3.2.1.66)
C12Y 302/01067	. . Galacturan 1,4-alpha-galacturonidase (3.2.1.67)
C12Y 302/01068	. . Isoamylase (3.2.1.68)
C12Y 302/0107	. . Glucan 1,6-alpha-glucosidase (3.2.1.70)
C12Y 302/01071	. . Glucan endo-1,2-beta-glucosidase (3.2.1.71)
C12Y 302/01072	. . Xylan 1,3-beta-xylosidase (3.2.1.72)
C12Y 302/01073	. . Licheninase (3.2.1.73)
C12Y 302/01074	. . Glucan 1,4-beta-glucosidase (3.2.1.74)
C12Y 302/01075	. . Glucan endo-1,6-beta-glucosidase (3.2.1.75)
C12Y 302/01076	. . L-Iduronidase (3.2.1.76)
C12Y 302/01077	. . Mannan 1,2-(1,3)-alpha-mannosidase (3.2.1.77)
C12Y 302/01078	. . Mannan endo-1,4-beta-mannosidase (3.2.1.78), i.e. endo-beta-mannanase
C12Y 302/0108	. . Fructan beta-fructosidase (3.2.1.80)
C12Y 302/01081	. . Beta-agarase (3.2.1.81)
C12Y 302/01082	. . Exo-poly-alpha-galacturonosidase (3.2.1.82)
C12Y 302/01083	. . Kappa-carrageenase (3.2.1.83)
C12Y 302/01084	. . Glucan 1,3-alpha-glucosidase (3.2.1.84), i.e. mutanase
C12Y 302/01085	. . 6-Phospho-beta-galactosidase (3.2.1.85)
C12Y 302/01086	. . 6-Phospho-beta-glucosidase (3.2.1.86)
C12Y 302/01087	. . Capsular-polysaccharide endo-1,3-alpha-galactosidase (3.2.1.87)
C12Y 302/01088	. . Beta-L-arabinosidase (3.2.1.88)

C12Y 302/01089	. . Arabinogalactan endo-beta-1,4-galactanase (3.2.1.89)
C12Y 302/01091	. . Cellulose 1,4-beta-cellobiosidase (3.2.1.91)
C12Y 302/01092	. . Peptidoglycan beta-N-acetylmuramidase (3.2.1.92)
C12Y 302/01093	. . Alpha,alpha-phosphotrehalase (3.2.1.93)
C12Y 302/01094	. . Glucan 1,6-alpha-isomaltosidase (3.2.1.94)
C12Y 302/01095	. . Dextran 1,6-alpha-isomaltotriosidase (3.2.1.95)
C12Y 302/01096	. . Mannosyl-glycoprotein endo-beta-N-acetylglucosaminidase (3.2.1.96)
C12Y 302/01097	. . Glycopeptide alpha-N-acetylglactosaminidase (3.2.1.97)
C12Y 302/01098	. . Glucan 1,4-alpha-maltohexaosidase (3.2.1.98)
C12Y 302/01099	. . Arabinan endo-1,5-alpha-L-arabinosidase (3.2.1.99)
C12Y 302/011	. . Mannan 1,4-mannobiosidase (3.2.1.100)
C12Y 302/01101	. . Mannan endo-1,6-alpha-mannosidase (3.2.1.101), i.e. endo-1,6-beta-mannanase
C12Y 302/01102	. . Blood-group-substance endo-1,4-beta-galactosidase (3.2.1.102)
C12Y 302/01103	. . Keratan-sulfate endo-1,4-beta-galactosidase (3.2.1.103)
C12Y 302/01104	. . Steryl-beta-glucosidase (3.2.1.104)
C12Y 302/01105	. . 3-Alpha-(S)-strictosidine beta-glucosidase (3.2.1.105)
C12Y 302/01106	. . Mannosyl-oligosaccharide glucosidase (3.2.1.106), i.e. glucosidase I
C12Y 302/01107	. . Protein-glucosylgalactosylhydroxylysine glucosidase (3.2.1.107)
C12Y 302/01108	. . Lactase (3.2.1.108)
C12Y 302/01109	. . Endogalactosaminidase (3.2.1.109)
C12Y 302/01111	. . 1,3-Alpha-L-fucosidase (3.2.1.111), i.e. 1,3-alpha-fucosidase
C12Y 302/01112	. . 2-Deoxyglucosidase (3.2.1.112)
C12Y 302/01113	. . Mannosyl-oligosaccharide 1,2-alpha-mannosidase (3.2.1.113), i.e. alpha-1,2-mannosidase
C12Y 302/01114	. . Mannosyl-oligosaccharide 1,3-1,6-alpha-mannosidase (3.2.1.114)
C12Y 302/01115	. . Branched-dextran exo-1,2-alpha-glucosidase (3.2.1.115)
C12Y 302/01116	. . Glucan 1,4-alpha-maltotriohydrolase (3.2.1.116)
C12Y 302/01117	. . Amygdalin beta-glucosidase (3.2.1.117)
C12Y 302/01118	. . Prunasin beta-glucosidase (3.2.1.118), i.e. prunasin hydrolase
C12Y 302/01119	. . Vicianin beta-glucosidase (3.2.1.119)
C12Y 302/0112	. . Oligoxyloglucan beta-glycosidase (3.2.1.120)
C12Y 302/01121	. . Polymannuronate hydrolase (3.2.1.121)
C12Y 302/01122	. . Maltose-6'-phosphate glucosidase (3.2.1.122)
C12Y 302/01123	. . Endoglycosylceramidase (3.2.1.123)
C12Y 302/01124	. . 3-Deoxy-2-octulosonidase (3.2.1.124)
C12Y 302/01125	. . Raucaffricine beta-glucosidase (3.2.1.125)
C12Y 302/01126	. . Coniferin beta-glucosidase (3.2.1.126)
C12Y 302/01127	. . 1,6-alpha-L-fucosidase (3.2.1.127)
C12Y 302/01128	. . Glycyrrhizinate beta-glucuronidase (3.2.1.128), i.e. GL beta-D-glucuronidase
C12Y 302/01129	. . Endo-alpha-sialidase (3.2.1.129)

C12Y 302/0113	. . Glycoprotein endo-alpha-1,2-mannosidase (3.2.1.130)
C12Y 302/01131	. . Xylan alpha-1,2-glucuronosidase (3.2.1.131)
C12Y 302/01132	. . Chitosanase (3.2.1.132)
C12Y 302/01133	. . Glucan 1,4-alpha-maltohydrolase (3.2.1.133), i.e. maltogenic alpha-amylase
C12Y 302/01134	. . Difructose-anhydride synthase (3.2.1.134)
C12Y 302/01135	. . Neopullulanase (3.2.1.135)
C12Y 302/01136	. . Glucuronoarabinoxylan endo-1,4-beta-xylanase (3.2.1.136), i.e. feraxanase or feraxan-endoxylanase
C12Y 302/01137	. . Mannan exo-1,2-1,6-alpha-mannosidase (3.2.1.137)
C12Y 302/01139	. . Alpha-glucuronidase (3.2.1.139)
C12Y 302/0114	. . Lacto-N-biosidase (3.2.1.140)
C12Y 302/01141	. . 4-Alpha-D-((1->4)-alpha-D-glucano) trehalose trehalohydrolase (3.2.1.141)
C12Y 302/01142	. . Limit dextrinase (3.2.1.142)
C12Y 302/01143	. . Poly(ADP-ribose) glycohydrolase (3.2.1.143)
C12Y 302/01144	. . 3-Deoxyoctulosonase (3.2.1.144)
C12Y 302/01145	. . Galactan 1,3-beta-galactosidase (3.2.1.145), i.e. arabinogalactan endo-1,3-beta-galactosidase
C12Y 302/01146	. . Beta-galactofuranosidase (3.2.1.146)
C12Y 302/01147	. . Thioglucosidase (3.2.1.147), i.e. myrosinase
C12Y 302/01149	. . Beta-primeverosidase (3.2.1.149)
C12Y 302/0115	. . Oligoxyloglucan reducing-end-specific cellobiohydrolase (3.2.1.150)
C12Y 302/01151	. . Xyloglucan-specific endo-beta-1,4-glucanase (3.2.1.151), i.e. endoxyloglucanase
C12Y 302/01152	. . Mannosylglycoprotein endo-beta-mannosidase (3.2.1.152)
C12Y 302/01153	. . Fructan beta-(2,1)-fructosidase (3.2.1.153)
C12Y 302/01154	. . Fructan beta-(2,6)-fructosidase (3.2.1.154)
C12Y 302/01155	. . Xyloglucan-specific exo-beta-1,4-glucanase (3.2.1.155), i.e. exoxyloglucanase
C12Y 302/01156	. . Oligosaccharide reducing-end xylanase (3.2.1.156)
C12Y 302/01157	. . Iota-carrageenase (3.2.1.157)
C12Y 302/01158	. . Alpha-agarase (3.2.1.158)
C12Y 302/01159	. . Alpha-neoagaro-oligosaccharide hydrolase (3.2.1.159)
C12Y 302/01161	. . Beta-apiosyl-beta-glucosidase (3.2.1.161)
C12Y 302/01162	. . Lambda-carrageenase (3.2.1.162)
C12Y 302/01163	. . 1,6-Alpha-D-mannosidase (3.2.1.163)
C12Y 302/01164	. . Galactan endo-1,6-beta-galactosidase (3.2.1.164)
C12Y 302/01165	. . Exo-1,4-beta-D-glucosaminidase (3.2.1.165), i.e. exochitosanase
C12Y 302/01166	. . Heparanase (3.2.1.166)
C12Y 302/01167	. . Baicalin-beta-D-glucuronidase (3.2.1.167)
C12Y 302/01168	. . Hesperidin 6-O-alpha-L-rhamnosyl-beta-D-glucosidase (3.2.1.168)
C12Y 302/01169	. . Protein O-GlcNAcase (3.2.1.169)
C12Y 302/0117	. . Mannosylglycerate hydrolase (3.2.1.170)

C12Y 302/01171	. . Rhamnogalacturonan hydrolase (3.2.1.171), i.e. rhamnogalacturonase
C12Y 302/01172	. . Unsaturated rhamnogalacturonyl hydrolase (3.2.1.172)
C12Y 302/01173	. . Rhamnogalacturonan galacturonohydrolase (3.2.1.173)
C12Y 302/01174	. . Rhamnogalacturonan rhamnohydrolase (3.2.1.174)
C12Y 302/01175	. . Beta-D-glucopyranosyl abscisate beta-glucosidase (3.2.1.175)
C12Y 302/01176	. . Cellulose 1,4-beta-cellobiosidase (reducing end)(3.2.1.176)
C12Y 302/01177	. . Alpha-D-xyloside xylohydrolase (3.2.1.177)
C12Y 302/01178	. . Beta-porphyrane (3.2.1.178)
C12Y 302/01179	. . Gellan tetrasaccharide unsaturated glucuronyl hydrolase (3.2.1.179)
C12Y 302/0118	. . Unsaturated chondroitin disaccharide hydrolase (3.2.1.180)
C12Y 302/01181	. . Galactan endo-beta-1,3-galactanase (3.2.1.181)
C12Y 302/01182	. . 4-Hydroxy-7-methoxy-3-oxo-3,4-dihydro-2H-1,4-benzoxazin-2-yl glucoside beta-D-glucosidase (3.2.1.182)
C12Y 302/01183	. . UDP-N-acetylglucosamine 2-epimerase (hydrolysing) (3.2.1.183)
C12Y 302/01184	. . UDP-N,N'-diacetylglucosamine 2-epimerase (hydrolysing) (3.2.1.184)
C12Y 302/02	. hydrolysing N-glycosyl compounds (3.2.2)
C12Y 302/02001	. . Purine nucleosidase (3.2.2.1)
C12Y 302/02002	. . Inosine nucleosidase (3.2.2.2)
C12Y 302/02003	. . Uridine nucleosidase (3.2.2.3)
C12Y 302/02004	. . AMP nucleosidase (3.2.2.4)
C12Y 302/02005	. . NAD <sup>+</sup> nucleosidase (3.2.2.5)
C12Y 302/02006	. . NAD(P) <sup>+</sup> nucleosidase (3.2.2.6)
C12Y 302/02007	. . Adenosine nucleosidase (3.2.2.7)
C12Y 302/02008	. . Ribosylpyrimidine nucleosidase (3.2.2.8)
C12Y 302/02009	. . Adenosylhomocysteine nucleosidase (3.2.2.9)
C12Y 302/0201	. . Pyrimidine-5'-nucleotide nucleosidase (3.2.2.10)
C12Y 302/02011	. . Beta-aspartyl-N-acetylglucosaminidase (3.2.2.11)
C12Y 302/02012	. . Inosinate nucleosidase (3.2.2.12)
C12Y 302/02013	. . 1-Methyladenosine nucleosidase (3.2.2.13)
C12Y 302/02014	. . NMN nucleosidase (3.2.2.14)
C12Y 302/02015	. . DNA-deoxyinosine glycosylase (3.2.2.15)
C12Y 302/02016	. . Methylthioadenosine nucleosidase (3.2.2.16)
C12Y 302/02017	. . Deoxyribodipyrimidine endonucleosidase (3.2.2.17)
C12Y 302/02019	. . Protein ADP-ribosylarginine hydrolase (3.2.2.19)
C12Y 302/0202	. . DNA-3-methyladenine glycosylase I (3.2.2.20), i.e. adenine DNA glycosylase
C12Y 302/02021	. . DNA-3-methyladenine glycosylase II (3.2.2.21)
C12Y 302/02022	. . rRNA N-glycosylase (3.2.2.22)
C12Y 302/02023	. . DNA-formamidopyrimidine glycosylase (3.2.2.23)
C12Y 302/02024	. . ADP-ribosyl-[dinitrogen reductase] hydrolase (3.2.2.24)
C12Y 302/02025	. . N-Methyl nucleosidase (3.2.2.25)

- C12Y 302/02026 . . Futalosine hydrolase (3.2.2.26)
- C12Y 302/02027 . . Uracil-DNA glycosylase (3.2.2.27)
- C12Y 302/02028 . . Double-stranded uracil-DNA glycosylase (3.2.2.28)
- C12Y 302/02029 . . Thymine-DNA glycosylase (3.2.2.29)

**C12Y 303/00****Hydrolases acting on ether bonds (3.3)**

- C12Y 303/01 . Thioether and trialkylsulfonium hydrolases (3.3.1)
- C12Y 303/01001 . . Adenosylhomocysteinase (3.3.1.1)
- C12Y 303/01002 . . Adenosylmethionine hydrolase (3.3.1.2)
- C12Y 303/02 . Ether hydrolases (3.3.2)
- C12Y 303/02001 . . Isochorismatase (3.3.2.1)
- C12Y 303/02002 . . Alkenylglycerophosphocholine hydrolase (3.3.2.2)
- C12Y 303/02003 . . Epoxide hydrolase (3.3.2.3) ([C12Y 303/02009](#) or [C12Y 303/0201](#) takes precedence)
- C12Y 303/02004 . . Trans-epoxysuccinate hydrolase (3.3.2.4)
- C12Y 303/02005 . . Alkenylglycerophosphoethanolamine hydrolase (3.3.2.5)
- C12Y 303/02006 . . Leukotriene-A4 hydrolase (3.3.2.6)
- C12Y 303/02007 . . Hepoxilin-epoxide hydrolase (3.3.2.7)
- C12Y 303/02008 . . Limonene-1,2-epoxide hydrolase (3.3.2.8)
- C12Y 303/02009 . . Microsomal epoxide hydrolase (3.3.2.9), i.e. styreneepoxide hydrolase
- C12Y 303/0201 . . Soluble epoxide hydrolase (3.3.2.10)
- C12Y 303/02011 . . Cholesterol-5,6-oxide hydrolase (3.3.2.11)

**C12Y 304/00****Hydrolases acting on peptide bonds i.e. peptidases (3.4)**

- C12Y 304/11 . Aminopeptidases (3.4.11)
- C12Y 304/11001 . . Leucyl aminopeptidase (3.4.11.1)
- C12Y 304/11002 . . Membrane alanyl aminopeptidase (3.4.11.2), i.e. aminopeptidase N
- C12Y 304/11003 . . Cystinyl aminopeptidase (3.4.11.3)
- C12Y 304/11004 . . Tripeptide aminopeptidase (3.4.11.4)
- C12Y 304/11005 . . Prolyl aminopeptidase (3.4.11.5)
- C12Y 304/11006 . . Aminopeptidase B (3.4.11.6)
- C12Y 304/11007 . . Glutamyl aminopeptidase (3.4.11.7)
- C12Y 304/11009 . . Xaa-Pro aminopeptidase (3.4.11.9), i.e. aminopeptidase P
- C12Y 304/1101 . . Bacterial leucyl aminopeptidase (3.4.11.10)
- C12Y 304/11011 . . Aminopeptidase (3.4.11.11)
- C12Y 304/11013 . . Clostridial aminopeptidase (3.4.11.13)
- C12Y 304/11014 . . Cytosol alanyl aminopeptidase (3.4.11.14)
- C12Y 304/11015 . . Aminopeptidase Y (3.4.11.15), i.e. lysyl aminopeptidase
- C12Y 304/11016 . . Xaa-Trp aminopeptidase (3.4.11.16)
- C12Y 304/11017 . . Tryptophanyl aminopeptidase (3.4.11.17)
- C12Y 304/11018 . . Methionyl aminopeptidase (3.4.11.18)

C12Y 304/11019	. . D-Stereospecific aminopeptidase (3.4.11.19)
C12Y 304/1102	. . Aminopeptidase Ey (3.4.11.20)
C12Y 304/11021	. . Aspartyl aminopeptidase (3.4.11.21)
C12Y 304/11022	. . Aminopeptidase I (3.4.11.22)
C12Y 304/11023	. . PepB aminopeptidase (3.4.11.23)
C12Y 304/11024	. . Aminopeptidase S (3.4.11.24)
C12Y 304/11025	. . Beta-peptidyl aminopeptidase (3.4.11.25)
C12Y 304/11026	. . Intermediate cleaving peptidase 55 (3.4.11.26)
C12Y 304/13	. Dipeptidases (3.4.13)
C12Y 304/13003	. . Xaa-His dipeptidase (3.4.13.3) ( <a href="#">C12Y 304/13018</a> , <a href="#">C12Y 304/1302</a> take precedence)
C12Y 304/13004	. . Xaa-Arg dipeptidase (3.4.13.4)
C12Y 304/13005	. . Xaa-methyl-His dipeptidase (3.4.13.5)
C12Y 304/13007	. . Glu-Glu dipeptidase (3.4.13.7)
C12Y 304/13009	. . Xaa-Pro dipeptidase (3.4.13.9) i.e. prolidase
C12Y 304/13011	. . Dipeptidase (3.4.13.11) ( <a href="#">C12Y 304/13018</a> or <a href="#">C12Y 304/13019</a> takes precedence)
C12Y 304/13012	. . Met-Xaa dipeptidase (3.4.13.12)
C12Y 304/13017	. . Non-stereospecific dipeptidase (3.4.13.17)
C12Y 304/13018	. . Cytosol nonspecific dipeptidase (3.4.13.18), i.e. glycyl-leucine dipeptidase
C12Y 304/13019	. . Membrane dipeptidase (3.4.13.19)
C12Y 304/1302	. . Beta-Ala-His dipeptidase (3.4.13.20)
C12Y 304/13021	. . Dipeptidase E (3.4.13.21)
C12Y 304/13022	. . D-Ala-D-Ala dipeptidase (3.4.13.22)
C12Y 304/14	. Dipeptidyl-peptidases and tripeptidyl-peptidases (3.4.14)
C12Y 304/14001	. . Dipeptidyl-peptidase I (3.4.14.1), i.e. cathepsin-C
C12Y 304/14002	. . Dipeptidyl-peptidase II (3.4.14.2)
C12Y 304/14004	. . Dipeptidyl-peptidase III (3.4.14.4)
C12Y 304/14005	. . Dipeptidyl-peptidase IV (3.4.14.5)
C12Y 304/14006	. . Dipeptidyl-dipeptidase (3.4.14.6)
C12Y 304/14008	. . Tripeptidyl peptidase (3.4.14.8) ( <a href="#">C12Y 304/14009</a> , <a href="#">C12Y 304/1401</a> take precedence)
C12Y 304/14009	. . Tripeptidyl-peptidase I (3.4.14.9)
C12Y 304/1401	. . Tripeptidyl-peptidase II (3.4.14.10)
C12Y 304/14011	. . Xaa-Pro dipeptidyl-peptidase (3.4.14.11)
C12Y 304/14012	. . Xaa-Xaa-Pro tripeptidyl-peptidase (3.4.14.12), i.e. prolyltri-peptidyl aminopeptidase
C12Y 304/15	. Peptidyl-dipeptidases (3.4.15)
C12Y 304/15001	. . Peptidyl-dipeptidase A (3.4.15.1)
C12Y 304/15004	. . Peptidyl-dipeptidase B (3.4.15.4)
C12Y 304/15005	. . Peptidyl-dipeptidase Dcp (3.4.15.5)
C12Y 304/15006	. . Cyanophycinase (3.4.15.6)



C12Y 304/16	. Serine-type carboxypeptidases (3.4.16)
C12Y 304/16001	. . Serine carboxypeptidase (3.4.16.1) ( <a href="#">C12Y 304/16005</a> , <a href="#">C12Y 304/16006</a> take precedence)
C12Y 304/16002	. . Lysosomal Pro-Xaa carboxypeptidase (3.4.16.2)
C12Y 304/16004	. . Serine-type D-Ala-D-Ala carboxypeptidase (3.4.16.4)
C12Y 304/16005	. . Carboxypeptidase C (3.4.16.5), i.e. carboxypeptidase Y
C12Y 304/16006	. . Carboxypeptidase D (3.4.16.6)
C12Y 304/17	. Metallo-carboxypeptidases (3.4.17)
C12Y 304/17001	. . Carboxypeptidase A (3.4.17.1)
C12Y 304/17002	. . Carboxypeptidase B (3.4.17.2)
C12Y 304/17003	. . Lysine carboxypeptidase (3.4.17.3)
C12Y 304/17004	. . Gly-Xaa carboxypeptidase (3.4.17.4)
C12Y 304/17006	. . Alanine carboxypeptidase (3.4.17.6)
C12Y 304/17008	. . Muramoylpentapeptide carboxypeptidase (3.4.17.8)
C12Y 304/1701	. . Carboxypeptidase E (3.4.17.10)
C12Y 304/17011	. . Glutamate carboxypeptidase (3.4.17.11)
C12Y 304/17012	. . Carboxypeptidase M (3.4.17.12)
C12Y 304/17013	. . Muramoyltetrapeptide carboxypeptidase (3.4.17.13)
C12Y 304/17014	. . Zinc D-Ala-D-Ala carboxypeptidase (3.4.17.14)
C12Y 304/17015	. . Carboxypeptidase A2 (3.4.17.15)
C12Y 304/17016	. . Membrane Pro-Xaa carboxypeptidase (3.4.17.16)
C12Y 304/17017	. . Tubuliny-Tyr carboxypeptidase (3.4.17.17)
C12Y 304/17018	. . Carboxypeptidase T (3.4.17.18)
C12Y 304/17019	. . Carboxypeptidase Taq (3.4.17.19)
C12Y 304/1702	. . Carboxypeptidase U (3.4.17.20)
C12Y 304/17021	. . Glutamate carboxypeptidase II (3.4.17.21)
C12Y 304/17022	. . Metallo-carboxypeptidase D (3.4.17.22)
C12Y 304/17023	. . Angiotensin-converting enzyme 2 (3.4.17.23)
C12Y 304/18	. Cysteine-type carboxypeptidases (3.4.18)
C12Y 304/18001	. . Cathepsin X (3.4.18.1)
C12Y 304/19	. Omega peptidases (3.4.19)
C12Y 304/19001	. . Acylaminoacyl-peptidase (3.4.19.1)
C12Y 304/19002	. . Peptidyl-glycinamidase (3.4.19.2)
C12Y 304/19003	. . Pyroglutamyl-peptidase I (3.4.19.3)
C12Y 304/19005	. . Beta-aspartyl-peptidase (3.4.19.5)
C12Y 304/19006	. . Pyroglutamyl-peptidase II (3.4.19.6)
C12Y 304/19007	. . N-Formylmethionyl-peptidase (3.4.19.7)
C12Y 304/19009	. . Gamma-glutamyl hydrolase (3.4.19.9)
C12Y 304/19011	. . Gamma-D-glutamyl-meso-diaminopimelate peptidase (3.4.19.11)
C12Y 304/19012	. . Ubiquitinyl hydrolase 1 (3.4.19.12)

C12Y 304/19013	. . Glutathione hydrolase 1 (3.4.19.13)
C12Y 304/19014	. . Leukotriene-C4 hydrolase (3.4.19.14)
C12Y 304/21	. Serine endopeptidases (3.4.21)
C12Y 304/21001	. . Chymotrypsin (3.4.21.1)
C12Y 304/21002	. . Chymotrypsin C (3.4.21.2)
C12Y 304/21003	. . Metridin (3.4.21.3)
C12Y 304/21004	. . Trypsin (3.4.21.4)
C12Y 304/21005	. . Thrombin (3.4.21.5)
C12Y 304/21006	. . Coagulation factor Xa (3.4.21.6)
C12Y 304/21007	. . Plasmin (3.4.21.7), i.e. fibrinolysin
C12Y 304/21008	. . Kallikrein (3.4.21.8) ( <a href="#">C12Y 304/21034</a> , <a href="#">C12Y 304/21035</a> take precedence)
C12Y 304/21009	. . Enteropeptidase (3.4.21.9), i.e. enterokinase
C12Y 304/2101	. . Acrosin (3.4.21.10)
C12Y 304/21011	. . Elastase (3.4.21.11) ( <a href="#">C12Y 304/21036</a> or <a href="#">C12Y 304/21037</a> takes precedence)
C12Y 304/21012	. . Alpha-lytic endopeptidase (3.4.21.12)
C12Y 304/21014	. . Microbial serine proteases (3.4.21.14) ( <a href="#">C12Y 304/21062</a> - <a href="#">C12Y 304/21067</a> takes precedence)
C12Y 304/21019	. . Glutamyl endopeptidase (3.4.21.19)
C12Y 304/2102	. . Cathepsin G (3.4.21.20)
C12Y 304/21021	. . Coagulation factor VIIa (3.4.21.21)
C12Y 304/21022	. . Coagulation factor IXa (3.4.21.22)
C12Y 304/21025	. . Cucumisin (3.4.21.25)
C12Y 304/21026	. . Prolyl oligopeptidase (3.4.21.26), i.e. proline-specific endopeptidase
C12Y 304/21027	. . Coagulation factor XIa (3.4.21.27)
C12Y 304/21031	. . Urokinase (3.4.21.31) ( <a href="#">C12Y 304/21068</a> or <a href="#">C12Y 304/21073</a> takes precedence)
C12Y 304/21032	. . Brachyurin (3.4.21.32)
C12Y 304/21034	. . Plasma kallikrein (3.4.21.34)
C12Y 304/21035	. . Tissue kallikrein (3.4.21.35)
C12Y 304/21036	. . Pancreatic elastase (3.4.21.36)
C12Y 304/21037	. . Leukocyte elastase (3.4.21.37), i.e. neutrophil-elastase
C12Y 304/21038	. . Coagulation factor XIIa (3.4.21.38)
C12Y 304/21039	. . Chymase (3.4.21.39)
C12Y 304/21041	. . Complement subcomponent C1r (3.4.21.41)
C12Y 304/21042	. . Complement subcomponent C1s (3.4.21.42)
C12Y 304/21043	. . Classical-complement-pathway C3/C5 convertase (3.4.21.43)
C12Y 304/21045	. . Complement factor I (3.4.21.45)
C12Y 304/21046	. . Complement factor D (3.4.21.46)
C12Y 304/21047	. . Alternative-complement-pathway C3/C5 convertase (3.4.21.47), i.e. properdin factor B
C12Y 304/21048	. . Cerevisin (3.4.21.48)

C12Y 304/21049	. . Hypodermin C (3.4.21.49)
C12Y 304/2105	. . Lysyl endopeptidase (3.4.21.50)
C12Y 304/21053	. . Endopeptidase La (3.4.21.53)
C12Y 304/21054	. . Gamma-renin (3.4.21.54)
C12Y 304/21055	. . Venombin AB (3.4.21.55)
C12Y 304/21057	. . Leucyl endopeptidase (3.4.21.57)
C12Y 304/21059	. . Tryptase (3.4.21.59)
C12Y 304/2106	. . Scutellarin (3.4.21.60)
C12Y 304/21061	. . Kexin (3.4.21.61), i.e. proprotein convertase subtilisin/kexin type 9
C12Y 304/21062	. . Subtilisin (3.4.21.62)
C12Y 304/21063	. . Oryzin (3.4.21.63)
C12Y 304/21064	. . Peptidase K (3.4.21.64)
C12Y 304/21065	. . Thermomycolin (3.4.21.65)
C12Y 304/21066	. . Thermitase (3.4.21.66)
C12Y 304/21067	. . Endopeptidase So (3.4.21.67)
C12Y 304/21068	. . Tissue plasminogen activator (3.4.21.68), i.e. tPA
C12Y 304/21069	. . Protein C activated (3.4.21.69)
C12Y 304/2107	. . Pancreatic endopeptidase E (3.4.21.70)
C12Y 304/21071	. . Pancreatic elastase II (3.4.21.71)
C12Y 304/21072	. . IgA-specific serine endopeptidase (3.4.21.72)
C12Y 304/21073	. . u-Plasminogen activator (3.4.21.73), i.e. urokinase
C12Y 304/21074	. . Venombin A (3.4.21.74)
C12Y 304/21075	. . Furin (3.4.21.75)
C12Y 304/21076	. . Myeloblastin (3.4.21.76)
C12Y 304/21077	. . Semenogelase (3.4.21.77), i.e. prostate specific antigen or PSA or kallikrein 3
C12Y 304/21078	. . Granzyme A (3.4.21.78)
C12Y 304/21079	. . Granzyme B (3.4.21.79)
C12Y 304/2108	. . Streptogrisin A (3.4.21.80)
C12Y 304/21081	. . Streptogrisin B (3.4.21.81)
C12Y 304/21082	. . Glutamyl endopeptidase II (3.4.21.82)
C12Y 304/21083	. . Oligopeptidase B (3.4.21.83), i.e. trypsin-like protease
C12Y 304/21084	. . Limulus clotting factor C (3.4.21.84)
C12Y 304/21085	. . Limulus clotting factor B (3.4.21.85)
C12Y 304/21086	. . Limulus clotting enzyme (3.4.21.86)
C12Y 304/21088	. . Repressor LexA (3.4.21.88)
C12Y 304/21089	. . Signal peptidase I (3.4.21.89)
C12Y 304/2109	. . Togavirin (3.4.21.90)
C12Y 304/21091	. . Flavivirin (3.4.21.91)
C12Y 304/21092	. . Endopeptidase Clp (3.4.21.92)
C12Y 304/21093	. . Proprotein convertase 1 (3.4.21.93)

C12Y 304/21094	. .	Proprotein convertase 2 (3.4.21.94), i.e. prohormone convertase 2
C12Y 304/21095	. .	Snake venom factor V activator (3.4.21.95)
C12Y 304/21096	. .	Lactocepin (3.4.21.96)
C12Y 304/21097	. .	Assemblin (3.4.21.97)
C12Y 304/21098	. .	Hepacivirin (3.4.21.98)
C12Y 304/21099	. .	Spermosin (3.4.21.99)
C12Y 304/211	. .	Sedolisin (3.4.21.100)
C12Y 304/21101	. .	Xanthomonalisin (3.4.21.101)
C12Y 304/21102	. .	C-terminal processing peptidase (3.4.21.102)
C12Y 304/21103	. .	Physarolisin (3.4.21.103), i.e. physaropepsin
C12Y 304/21104	. .	Mannan-binding lectin-associated serine protease-2 (3.4.21.104)
C12Y 304/21105	. .	Rhomboid protease (3.4.21.105)
C12Y 304/21106	. .	Hepsin (3.4.21.106)
C12Y 304/21107	. .	Peptidase Do (3.4.21.107)
C12Y 304/21108	. .	HtrA2 peptidase (3.4.21.108)
C12Y 304/21109	. .	Matriptase (3.4.21.109)
C12Y 304/2111	. .	C5a peptidase (3.4.21.110)
C12Y 304/21111	. .	Aqualysin 1 (3.4.21.111)
C12Y 304/21112	. .	Site-1 protease (3.4.21.112), i.e. subtilisin kexin isozyme-1
C12Y 304/21113	. .	Pestivirus NS3 polyprotein peptidase (3.4.21.113)
C12Y 304/21114	. .	Equine arterivirus serine peptidase (3.4.21.114)
C12Y 304/21115	. .	Infectious pancreatic necrosis birnavirus Vp4 peptidase (3.4.21.115)
C12Y 304/21116	. .	SpoIVB peptidase (3.4.21.116)
C12Y 304/21117	. .	Stratum corneum chymotryptic enzyme (3.4.21.117)
C12Y 304/21118	. .	Kallikrein 8 (3.4.21.118)
C12Y 304/21119	. .	Kallikrein 13 (3.4.21.119)
C12Y 304/2112	. .	Oviductin (3.4.21.120)
C12Y 304/21826	. .	Proprotein convertase 5 (3.4.21.B26)
C12Y 304/22	. .	Cysteine endopeptidases (3.4.22)
C12Y 304/22001	. .	Cathepsin B (3.4.22.1)
C12Y 304/22002	. .	Papain (3.4.22.2)
C12Y 304/22003	. .	Ficain (3.4.22.3)
C12Y 304/22004	. .	Bromelain (3.4.22.4) ( <a href="#">C12Y 304/22032</a> or <a href="#">C12Y 304/22033</a> takes precedence)
C12Y 304/22006	. .	Chymopapain (3.4.22.6)
C12Y 304/22007	. .	Asclepain (3.4.22.7)
C12Y 304/22008	. .	Clostripain (3.4.22.8)
C12Y 304/2201	. .	Streptopain (3.4.22.10)
C12Y 304/22014	. .	Actinidain (3.4.22.14)
C12Y 304/22015	. .	Cathepsin L (3.4.22.15)
C12Y 304/22016	. .	Cathepsin H (3.4.22.16)

C12Y 304/22017	. . Calpain (3.4.22.17) ( <a href="#">C12Y 304/22052</a> , <a href="#">C12Y 304/22053</a> take precedence)
C12Y 304/22024	. . Cathepsin T (3.4.22.24)
C12Y 304/22025	. . Glycyl endopeptidase (3.4.22.25)
C12Y 304/22026	. . Cancer procoagulant (3.4.22.26)
C12Y 304/22027	. . Cathepsin S (3.4.22.27)
C12Y 304/22028	. . Picornain 3C (3.4.22.28)
C12Y 304/22029	. . Picornain 2A (3.4.22.29)
C12Y 304/2203	. . Caricain (3.4.22.30)
C12Y 304/22031	. . Ananain (3.4.22.31)
C12Y 304/22032	. . Stem bromelain (3.4.22.32)
C12Y 304/22033	. . Fruit bromelain (3.4.22.33), i.e. juice bromelain
C12Y 304/22034	. . Legumain (3.4.22.34), i.e. asparaginyl endopeptidase
C12Y 304/22035	. . Histolysain (3.4.22.35)
C12Y 304/22036	. . Caspase-1 (3.4.22.36), i.e. interleukin-1-beta-convertase
C12Y 304/22037	. . Gingipain R (3.4.22.37)
C12Y 304/22038	. . Cathepsin K (3.4.22.38)
C12Y 304/22039	. . Adenain (3.4.22.39)
C12Y 304/2204	. . Bleomycin hydrolase (3.4.22.40)
C12Y 304/22041	. . Cathepsin F (3.4.22.41)
C12Y 304/22042	. . Cathepsin O (3.4.22.42)
C12Y 304/22043	. . Cathepsin V (3.4.22.43)
C12Y 304/22044	. . Nuclear-inclusion-a endopeptidase (3.4.22.44)
C12Y 304/22045	. . Helper-component proteinase (3.4.22.45)
C12Y 304/22046	. . L-Peptidase (3.4.22.46)
C12Y 304/22047	. . Gingipain K (3.4.22.47)
C12Y 304/22048	. . Staphopain (3.4.22.48)
C12Y 304/22049	. . Separase (3.4.22.49)
C12Y 304/2205	. . V-Cath endopeptidase (3.4.22.50)
C12Y 304/22051	. . Cruzipain (3.4.22.51)
C12Y 304/22052	. . Calpain-1 (3.4.22.52)
C12Y 304/22053	. . Calpain-2 (3.4.22.53), i.e. m-calpain
C12Y 304/22054	. . Calpain-3 (3.4.22.54), i.e. calpain p94
C12Y 304/22055	. . Caspase-2 (3.4.22.55)
C12Y 304/22056	. . Caspase-3 (3.4.22.56)
C12Y 304/22057	. . Caspase-4 (3.4.22.57)
C12Y 304/22058	. . Caspase-5 (3.4.22.58)
C12Y 304/22059	. . Caspase-6 (3.4.22.59)
C12Y 304/2206	. . Caspase-7 (3.4.22.60)
C12Y 304/22061	. . Caspase-8 (3.4.22.61)
C12Y 304/22062	. . Caspase-9 (3.4.22.62)

C12Y 304/22063	. . Caspase-10 (3.4.22.63)
C12Y 304/22064	. . Caspase-11 (3.4.22.64)
C12Y 304/22065	. . Peptidase 1 (mite) (3.4.22.65)
C12Y 304/22066	. . Calicivirin (3.4.22.66)
C12Y 304/22067	. . Zingipain (3.4.22.67)
C12Y 304/22068	. . Ulp1 peptidase (3.4.22.68)
C12Y 304/22069	. . SARS coronavirus main proteinase (3.4.22.69)
C12Y 304/2207	. . Sortase A (3.4.22.70)
C12Y 304/22071	. . Sortase B (3.4.22.71)
C12Y 304/23	. Aspartic endopeptidases (3.4.23)
C12Y 304/23001	. . Pepsin A (3.4.23.1)
C12Y 304/23002	. . Pepsin B (3.4.23.2)
C12Y 304/23003	. . Gastricsin (3.4.23.3)
C12Y 304/23004	. . Chymosin (3.4.23.4), i.e. rennin
C12Y 304/23005	. . Cathepsin D (3.4.23.5)
C12Y 304/23006	. . Microbial carboxyl proteinases (3.4.23.6) ( <a href="#">C12Y 304/23018</a> - <a href="#">C12Y 304/23028</a> or <a href="#">C12Y 304/2303</a> takes precedence)
C12Y 304/23012	. . Nepenthesin (3.4.23.12)
C12Y 304/23015	. . Renin (3.4.23.15)
C12Y 304/23016	. . HIV-1 retropepsin (3.4.23.16)
C12Y 304/23017	. . Pro-opiomelanocortin converting enzyme (3.4.23.17)
C12Y 304/23018	. . Aspergillopepsin I (3.4.23.18)
C12Y 304/23019	. . Aspergillopepsin II (3.4.23.19)
C12Y 304/2302	. . Penicillopepsin (3.4.23.20)
C12Y 304/23021	. . Rhizopuspepsin (3.4.23.21)
C12Y 304/23022	. . Endothiapepsin (3.4.23.22)
C12Y 304/23023	. . Mucorpepsin (3.4.23.23)
C12Y 304/23024	. . Candidapepsin (3.4.23.24)
C12Y 304/23025	. . Saccharopepsin (3.4.23.25), i.e. yeast proteinase A
C12Y 304/23026	. . Rhodotorulapepsin (3.4.23.26)
C12Y 304/23028	. . Acrocylindropepsin (3.4.23.28)
C12Y 304/23029	. . Polyporopepsin (3.4.23.29)
C12Y 304/2303	. . Pycnoporopepsin (3.4.23.30)
C12Y 304/23031	. . Scytalidopepsin A (3.4.23.31)
C12Y 304/23032	. . Scytalidopepsin B (3.4.23.32)
C12Y 304/23034	. . Cathepsin E (3.4.23.34)
C12Y 304/23035	. . Barrierpepsin (3.4.23.35)
C12Y 304/23036	. . Signal peptidase II (3.4.23.36)
C12Y 304/23038	. . Plasmepsin I (3.4.23.38)
C12Y 304/23039	. . Plasmepsin II (3.4.23.39)



C12Y 304/2304	. . Phytapsin (3.4.23.40)
C12Y 304/23041	. . Yapsin 1 (3.4.23.41)
C12Y 304/23042	. . Thermopsin (3.4.23.42)
C12Y 304/23043	. . Prepilin peptidase (3.4.23.43)
C12Y 304/23044	. . Nodavirus endopeptidase (3.4.23.44)
C12Y 304/23045	. . Memapsin 1 (3.4.23.45), i.e. beta-secretase 2 or BACE2
C12Y 304/23046	. . Memapsin 2 (3.4.23.46), i.e. beta-secretase 1 or BACE
C12Y 304/23047	. . HIV-2 retropepsin (3.4.23.47)
C12Y 304/23048	. . Plasminogen activator Pla (3.4.23.48)
C12Y 304/23049	. . Omptin (3.4.23.49)
C12Y 304/2305	. . Human endogenous retrovirus K endopeptidase (3.4.23.50)
C12Y 304/23051	. . Hycl peptidase (3.4.23.51)
C12Y 304/23052	. . Preflagellin peptidase (3.4.23.52)
C12Y 304/24	. Metalloendopeptidases (3.4.24)
C12Y 304/24001	. . Atrolysin A (3.4.24.1)
C12Y 304/24003	. . Microbial collagenase (3.4.24.3)
C12Y 304/24004	. . Microbial metalloproteinases (3.4.24.4) ( <a href="#">C12Y 304/24025</a> - <a href="#">C12Y 304/24032</a> , <a href="#">C12Y 304/24039</a> or <a href="#">C12Y 304/2404</a> takes precedence)
C12Y 304/24005	. . Lens neutral proteinase (3.4.24.5) ( <a href="#">C12Y 304/22052</a> , <a href="#">C12Y 304/22053</a> , <a href="#">C12Y 304/25001</a> take precedence)
C12Y 304/24006	. . Leucolysin (3.4.24.6)
C12Y 304/24007	. . Interstitial collagenase (3.4.24.7), i.e. matrix metalloprotease 1 or MMP1
C12Y 304/24011	. . Neprilysin (3.4.24.11), i.e. enkephalinase or neutral endopeptidase 24.11
C12Y 304/24012	. . Envelysin (3.4.24.12)
C12Y 304/24013	. . IgA-specific metalloendopeptidase (3.4.24.13)
C12Y 304/24014	. . Procollagen N-endopeptidase (3.4.24.14)
C12Y 304/24015	. . Thimet oligopeptidase (3.4.24.15)
C12Y 304/24016	. . Neurolysin (3.4.24.16)
C12Y 304/24017	. . Stromelysin 1 (3.4.24.17)
C12Y 304/24018	. . Meprin A (3.4.24.18)
C12Y 304/24019	. . Procollagen C-endopeptidase (3.4.24.19)
C12Y 304/2402	. . Peptidyl-Lys metalloendopeptidase (3.4.24.20)
C12Y 304/24021	. . Astacin (3.4.24.21)
C12Y 304/24022	. . Stromelysin 2 (3.4.24.22)
C12Y 304/24023	. . Matrilysin (3.4.24.23)
C12Y 304/24024	. . Gelatinase A (3.4.24.24), i.e. matrix metalloproteinase 2 or MMP2
C12Y 304/24025	. . Vibriolysin (3.4.24.25)
C12Y 304/24026	. . Pseudolysin (3.4.24.26)
C12Y 304/24027	. . Thermolysin (3.4.24.27)
C12Y 304/24028	. . Bacillolysin (3.4.24.28)

C12Y 304/24029	. . Aureolysin (3.4.24.29)
C12Y 304/2403	. . Coccolysin (3.4.24.30)
C12Y 304/24031	. . Mycolysin (3.4.24.31)
C12Y 304/24032	. . Beta-lytic metalloendopeptidase (3.4.24.32)
C12Y 304/24033	. . Peptidyl-Asp metalloendopeptidase (3.4.24.33)
C12Y 304/24034	. . Neutrophil collagenase (3.4.24.34)
C12Y 304/24035	. . Gelatinase B (3.4.24.35), i.e. matrix metalloprotease 9 or MMP9
C12Y 304/24036	. . Leishmanolysin (3.4.24.36)
C12Y 304/24037	. . Saccharolysin (3.4.24.37), i.e. yeast cysteine proteinase D
C12Y 304/24038	. . Gametolysin (3.4.24.38), i.e. cell wall lytic enzyme
C12Y 304/24039	. . Deuterolysin (3.4.24.39)
C12Y 304/2404	. . Serralysin (3.4.24.40)
C12Y 304/24041	. . Atrolysin B (3.4.24.41)
C12Y 304/24042	. . Atrolysin C (3.4.24.42)
C12Y 304/24043	. . Atroxase (3.4.24.43)
C12Y 304/24044	. . Atrolysin E (3.4.24.44)
C12Y 304/24045	. . Atrolysin F (3.4.24.45)
C12Y 304/24046	. . Adamalysin (3.4.24.46)
C12Y 304/24047	. . Horrilysin (3.4.24.47)
C12Y 304/24048	. . Ruberlysin (3.4.24.48)
C12Y 304/24049	. . Bothropasin (3.4.24.49)
C12Y 304/2405	. . Bothrolysin (3.4.24.50)
C12Y 304/24051	. . Ophiolysin (3.4.24.51)
C12Y 304/24052	. . Trimerelysin I (3.4.24.52)
C12Y 304/24053	. . Trimerelysin II (3.4.24.53)
C12Y 304/24054	. . Mucrolysin (3.4.24.54)
C12Y 304/24055	. . Pitrilysin (3.4.24.55)
C12Y 304/24056	. . Insulysin (3.4.24.56)
C12Y 304/24057	. . O-Sialoglycoprotein endopeptidase (3.4.24.57), i.e. glycoprotease
C12Y 304/24058	. . Russellysin (3.4.24.58)
C12Y 304/24059	. . Mitochondrial intermediate peptidase (3.4.24.59)
C12Y 304/2406	. . Dactylysin (3.4.24.60)
C12Y 304/24061	. . Nardilysin (3.4.24.61)
C12Y 304/24062	. . Magnolysin (3.4.24.62)
C12Y 304/24063	. . Meprin B (3.4.24.63)
C12Y 304/24064	. . Mitochondrial processing peptidase (3.4.24.64)
C12Y 304/24065	. . Macrophage elastase (3.4.24.65), i.e. metalloelastase
C12Y 304/24066	. . Choriolysin L (3.4.24.66)
C12Y 304/24067	. . Choriolysin H (3.4.24.67)
C12Y 304/24068	. . Tentoxilysin (3.4.24.68), i.e. tetanus neurotoxin

C12Y 304/24069	. . Bontoxilysin (3.4.24.69), i.e. botulinum neurotoxin
C12Y 304/2407	. . Oligopeptidase A (3.4.24.70)
C12Y 304/24071	. . Endothelin-converting enzyme 1 (3.4.24.71)
C12Y 304/24072	. . Fibrolase (3.4.24.72)
C12Y 304/24073	. . Jararhagin (3.4.24.73)
C12Y 304/24074	. . Fragilysin (3.4.24.74)
C12Y 304/24075	. . Lysostaphin (3.4.24.75)
C12Y 304/24076	. . Flavastacin (3.4.24.76)
C12Y 304/24077	. . Snapalysin (3.4.24.77)
C12Y 304/24078	. . GPR endopeptidase (3.4.24.78)
C12Y 304/24079	. . Pappalysin-1 (3.4.24.79)
C12Y 304/2408	. . Membrane-type matrix metalloproteinase-1 (3.4.24.80)
C12Y 304/24081	. . ADAM10 endopeptidase (3.4.24.81)
C12Y 304/24082	. . ADAMTS-4 endopeptidase (3.4.24.82), i.e. aggrecanase 1
C12Y 304/24083	. . Anthrax lethal factor endopeptidase (3.4.24.83)
C12Y 304/24084	. . Ste24 endopeptidase (3.4.24.84)
C12Y 304/24085	. . S2P endopeptidase (3.4.24.85)
C12Y 304/24086	. . ADAM 17 endopeptidase (3.4.24.86), i.e. TNF-alpha converting enzyme
C12Y 304/24087	. . ADAMTS13 endopeptidase (3.4.24.87)
C12Y 304/24812	. . ADAMTS5 endopeptidase (3.4.24.B12) i.e. aggrecanase 2
C12Y 304/25	. Threonine endopeptidases (3.4.25)
C12Y 304/25001	. . Proteasome endopeptidase complex (3.4.25.1)
C12Y 304/25002	. . HsIU--HsIV peptidase (3.4.25.2)

**C12Y 305/00****Hydrolases acting on carbon-nitrogen bonds, other than peptide bonds (3.5)**

C12Y 305/01	. in linear amides (3.5.1)
C12Y 305/01001	. . Asparaginase (3.5.1.1)
C12Y 305/01002	. . Glutaminase (3.5.1.2)
C12Y 305/01003	. . Omega-amidase (3.5.1.3)
C12Y 305/01004	. . Amidase (3.5.1.4)
C12Y 305/01005	. . Urease (3.5.1.5)
C12Y 305/01006	. . Beta-ureidopropionase (3.5.1.6)
C12Y 305/01007	. . Ureidosuccinase (3.5.1.7)
C12Y 305/01008	. . Formylaspartate deformylase (3.5.1.8)
C12Y 305/01009	. . Arylformamidase (3.5.1.9)
C12Y 305/0101	. . Formyltetrahydrofolate deformylase (3.5.1.10)
C12Y 305/01011	. . Penicillin amidase (3.5.1.11), i.e. penicillin-amidohydrolase
C12Y 305/01012	. . Biotinidase (3.5.1.12)
C12Y 305/01013	. . Aryl-acylamidase (3.5.1.13)
C12Y 305/01014	. . Aminoacylase (3.5.1.14)

C12Y 305/01015	. . Aspartoacylase (3.5.1.15)
C12Y 305/01016	. . Acetylornithine deacetylase (3.5.1.16)
C12Y 305/01017	. . Acyl-lysine deacylase (3.5.1.17)
C12Y 305/01018	. . Succinyl-diaminopimelate desuccinylase (3.5.1.18)
C12Y 305/01019	. . Nicotinamidase (3.5.1.19)
C12Y 305/0102	. . Citrullinase (3.5.1.20)
C12Y 305/01021	. . N-Acetyl-beta-alanine deacetylase (3.5.1.21)
C12Y 305/01022	. . Pantothenase (3.5.1.22)
C12Y 305/01023	. . Ceramidase (3.5.1.23)
C12Y 305/01024	. . Choloylglycine hydrolase (3.5.1.24), i.e. bile salt hydrolase
C12Y 305/01025	. . N-Acetylglucosamine-6-phosphate deacetylase (3.5.1.25)
C12Y 305/01026	. . N4-(Beta-N-acetylglucosaminy)-L-asparaginase (3.5.1.26)
C12Y 305/01027	. . N-Formylmethionylaminoacyl-tRNA deformylase (3.5.1.27)
C12Y 305/01028	. . N-Acetylmuramoyl-L-alanine amidase (3.5.1.28)
C12Y 305/01029	. . 2-(Acetamidomethylene)succinate hydrolase (3.5.1.29)
C12Y 305/0103	. . 5-Aminopentanamidase (3.5.1.30)
C12Y 305/01031	. . Formylmethionine deformylase (3.5.1.31)
C12Y 305/01032	. . Hippurate hydrolase (3.5.1.32)
C12Y 305/01033	. . N-Acetylglucosamine deacetylase (3.5.1.33)
C12Y 305/01035	. . D-Glutaminase (3.5.1.35)
C12Y 305/01036	. . N-Methyl-2-oxoglutaramate hydrolase (3.5.1.36)
C12Y 305/01038	. . Glutamin-(asparagin-)ase (3.5.1.38)
C12Y 305/01039	. . Alkylamidase (3.5.1.39)
C12Y 305/0104	. . Acylagmatine amidase (3.5.1.40)
C12Y 305/01041	. . Chitin deacetylase (3.5.1.41)
C12Y 305/01042	. . Nicotinamide-nucleotide amidase (3.5.1.42)
C12Y 305/01043	. . Peptidyl-glutaminase (3.5.1.43)
C12Y 305/01044	. . Protein-glutamine glutaminase (3.5.1.44)
C12Y 305/01046	. . 6-Aminohexanoate-dimer hydrolase (3.5.1.46)
C12Y 305/01047	. . N-Acetyldiaminopimelate deacetylase (3.5.1.47)
C12Y 305/01048	. . Acetylspermidine deacetylase (3.5.1.48)
C12Y 305/01049	. . Formamidase (3.5.1.49)
C12Y 305/0105	. . Pentanamidase (3.5.1.50)
C12Y 305/01051	. . 4-Acetamidobutyryl-CoA deacetylase (3.5.1.51)
C12Y 305/01052	. . Peptide-N4-(N-acetyl-beta-glucosaminy)asparagine amidase (3.5.1.52), i.e. glycopeptidase
C12Y 305/01053	. . N-carbamoylputrescine amidase (3.5.1.53)
C12Y 305/01054	. . Allophanate hydrolase (3.5.1.54)
C12Y 305/01055	. . Long-chain-fatty-acyl-glutamate deacylase (3.5.1.55)
C12Y 305/01056	. . N,N-Dimethylformamidase (3.5.1.56)

C12Y 305/01057	. . Tryptophanamidase (3.5.1.57)
C12Y 305/01058	. . N-Benzoyloxycarbonylglycine hydrolase (3.5.1.58)
C12Y 305/01059	. . N-Carbamoylsarcosine amidase (3.5.1.59)
C12Y 305/0106	. . N-(Long-chain-acyl)ethanolamine deacylase (3.5.1.60)
C12Y 305/01061	. . Mimosinase (3.5.1.61)
C12Y 305/01062	. . Acetylputrescine deacetylase (3.5.1.62)
C12Y 305/01063	. . 4-Acetamidobutyrate deacetylase (3.5.1.63)
C12Y 305/01064	. . Nalpha-benzoyloxycarbonylleucine hydrolase (3.5.1.64)
C12Y 305/01065	. . Theanine hydrolase (3.5.1.65)
C12Y 305/01066	. . 2-(Hydroxymethyl)-3-(acetamidomethylene)succinate hydrolase (3.5.1.66)
C12Y 305/01067	. . 4-Methyleneglutaminase (3.5.1.67)
C12Y 305/01068	. . N-Formylglutamate deformylase (3.5.1.68)
C12Y 305/01069	. . Glycosphingolipid deacylase (3.5.1.69)
C12Y 305/0107	. . Aculeacin-A deacylase (3.5.1.70)
C12Y 305/01071	. . N-Feruloylglycine deacylase (3.5.1.71)
C12Y 305/01072	. . D-Benzoylarginine-4-nitroanilide amidase (3.5.1.72)
C12Y 305/01073	. . Carnitinamidase (3.5.1.73)
C12Y 305/01074	. . Chenodeoxycholytaurine hydrolase (3.5.1.74)
C12Y 305/01075	. . Urethanase (3.5.1.75)
C12Y 305/01076	. . Arylalkyl acylamidase (3.5.1.76)
C12Y 305/01077	. . N-Carbamoyl-D-amino-acid hydrolase (3.5.1.77)
C12Y 305/01078	. . Glutathionylspermidine amidase (3.5.1.78)
C12Y 305/01079	. . Phthalyl amidase (3.5.1.79)
C12Y 305/01081	. . N-Acyl-D-amino-acid deacylase (3.5.1.81)
C12Y 305/01082	. . N-Acyl-D-glutamate deacylase (3.5.1.82)
C12Y 305/01083	. . N-Acyl-D-aspartate deacylase (3.5.1.83)
C12Y 305/01084	. . Biuret amidohydrolase (3.5.1.84)
C12Y 305/01085	. . (S)-N-Acetyl-1-phenylethylamine hydrolase (3.5.1.85)
C12Y 305/01086	. . Mandelamide amidase (3.5.1.86)
C12Y 305/01087	. . N-Carbamoyl-L-amino-acid hydrolase (3.5.1.87)
C12Y 305/01088	. . Peptide deformylase (3.5.1.88)
C12Y 305/01089	. . N-Acetylglucosaminyolphosphatidylinositol deacetylase (3.5.1.89)
C12Y 305/0109	. . Adenosylcobinamide hydrolase (3.5.1.90)
C12Y 305/01091	. . N-Substituted formamide deformylase (3.5.1.91)
C12Y 305/01092	. . Pantetheine hydrolase (3.5.1.92)
C12Y 305/01093	. . Glutaryl-7-aminocephalosporanic-acid acylase (3.5.1.93)
C12Y 305/01094	. . Gamma-glutamyl-gamma-aminobutyrate hydrolase (3.5.1.94)
C12Y 305/01095	. . N-Malonylurea hydrolase (3.5.1.95)
C12Y 305/01096	. . Succinylglutamate desuccinylase (3.5.1.96)
C12Y 305/01097	. . Acyl-homoserine-lactone acylase (3.5.1.97)

C12Y 305/01098	. . Histone deacetylase (3.5.1.98), i.e. sirtuin deacetylase
C12Y 305/01099	. . Fatty acid amide hydrolase (3.5.1.99)
C12Y 305/011	. . (R)-Amidase (3.5.1.100)
C12Y 305/01101	. . L-Proline amide hydrolase (3.5.1.101)
C12Y 305/01102	. . 2-Amino-5-formylamino-6-ribosylaminopyrimidin-4(3H)-one 5'-monophosphate deformylase (3.5.1.102)
C12Y 305/01103	. . N-Acetyl-1-D-myo-inositol-2-amino-2-deoxy-alpha-D-glucopyranoside deacetylase (3.5.1.103)
C12Y 305/01104	. . Peptidoglycan-N-acetylglucosamine deacetylase (3.5.1.104)
C12Y 305/01105	. . Chitin disaccharide deacetylase (3.5.1.105)
C12Y 305/01106	. . N-formylmaleamate deformylase (3.5.1.106)
C12Y 305/01107	. . Maleamate amidohydrolase (3.5.1.107)
C12Y 305/01108	. . UDP-3-O-acyl-N-acetylglucosamine deacetylase (3.5.1.108)
C12Y 305/01109	. . Sphingomyelin deacylase (3.5.1.109)
C12Y 305/0111	. . Peroxyureidoacrylate/ureidoacrylate amidohydrolase (3.5.1.110)
C12Y 305/01111	. . 2-Oxoglutaramate amidase (3.5.1.111)
C12Y 305/01112	. . 2'-N-Acetylparomamine deacetylase (3.5.1.112)
C12Y 305/01113	. . 2'''-Acetyl-6'''-hydroxyneomycin C deacetylase (3.5.1.113)
C12Y 305/02	. in cyclic amides (3.5.2)
C12Y 305/02001	. . Barbiturase (3.5.2.1)
C12Y 305/02002	. . Dihydropyrimidinase (3.5.2.2), i.e. hydantoinase
C12Y 305/02003	. . Dihydroorotase (3.5.2.3)
C12Y 305/02004	. . Carboxymethylhydantoinase (3.5.2.4)
C12Y 305/02005	. . Allantoinase (3.5.2.5)
C12Y 305/02006	. . Beta-lactamase (3.5.2.6)
C12Y 305/02007	. . Imidazolonepropionase (3.5.2.7)
C12Y 305/02009	. . 5-Oxoprolinase (ATP-hydrolysing) (3.5.2.9)
C12Y 305/0201	. . Creatininase (3.5.2.10)
C12Y 305/02011	. . L-Lysine-lactamase (3.5.2.11)
C12Y 305/02012	. . 6-Aminohexanoate-cyclic-dimer hydrolase (3.5.2.12)
C12Y 305/02013	. . 2,5-Dioxopiperazine hydrolase (3.5.2.13)
C12Y 305/02014	. . N-Methylhydantoinase (ATP-hydrolyzing) (3.5.2.14)
C12Y 305/02015	. . Cyanuric acid amidohydrolase (3.5.2.15)
C12Y 305/02016	. . Maleimide hydrolase (3.5.2.16)
C12Y 305/02017	. . Hydroxyisourate hydrolase (3.5.2.17)
C12Y 305/02018	. . Enamidase (3.5.2.18)
C12Y 305/02019	. . Streptothricin hydrolase (3.5.2.19)
C12Y 305/03	. in linear amidines (3.5.3)
C12Y 305/03001	. . Arginase (3.5.3.1)
C12Y 305/03002	. . Guanidinoacetase (3.5.3.2)



C12Y 305/03003	. . Creatinase (3.5.3.3), i.e. creatine amidinohydrolase
C12Y 305/03004	. . Allantoicase (3.5.3.4)
C12Y 305/03005	. . Formimidoylaspartate deiminase (3.5.3.5)
C12Y 305/03006	. . Arginine deiminase (3.5.3.6)
C12Y 305/03007	. . Guanidinobutyrase (3.5.3.7)
C12Y 305/03008	. . Formimidoylglutamase (3.5.3.8)
C12Y 305/03009	. . Allantoate deiminase (3.5.3.9)
C12Y 305/0301	. . D-Arginase (3.5.3.10)
C12Y 305/03011	. . Agmatinase (3.5.3.11)
C12Y 305/03012	. . Agmatine deiminase (3.5.3.12)
C12Y 305/03013	. . Formimidoylglutamate deiminase (3.5.3.13)
C12Y 305/03014	. . Amidinoaspartase (3.5.3.14)
C12Y 305/03015	. . Protein-arginine deiminase (3.5.3.15)
C12Y 305/03016	. . Methylguanidinase (3.5.3.16)
C12Y 305/03017	. . Guanidinopropionase (3.5.3.17)
C12Y 305/03018	. . Dimethylargininase (3.5.3.18)
C12Y 305/03019	. . Ureidoglycolate hydrolase (3.5.3.19)
C12Y 305/0302	. . Diguanidinobutanase (3.5.3.20)
C12Y 305/03021	. . Methylenediurea deaminase (3.5.3.21)
C12Y 305/03022	. . Proclavamate amidinohydrolase (3.5.3.22)
C12Y 305/03023	. . N-Succinylarginine dihydrolase (3.5.3.23)
C12Y 305/04	. in cyclic amidines (3.5.4)
C12Y 305/04001	. . Cytosine deaminase (3.5.4.1)
C12Y 305/04002	. . Adenine deaminase (3.5.4.2)
C12Y 305/04003	. . Guanine deaminase (3.5.4.3)
C12Y 305/04004	. . Adenosine deaminase (3.5.4.4)
C12Y 305/04005	. . Cytidine deaminase (3.5.4.5)
C12Y 305/04006	. . AMP deaminase (3.5.4.6)
C12Y 305/04007	. . ADP deaminase (3.5.4.7)
C12Y 305/04008	. . Aminoimidazolase (3.5.4.8)
C12Y 305/04009	. . Methenyltetrahydrofolate cyclohydrolase (3.5.4.9)
C12Y 305/0401	. . IMP cyclohydrolase (3.5.4.10)
C12Y 305/04011	. . Pterin deaminase (3.5.4.11)
C12Y 305/04012	. . dCMP deaminase (3.5.4.12)
C12Y 305/04013	. . dCTP deaminase (3.5.4.13)
C12Y 305/04014	. . Deoxycytidine deaminase (3.5.4.14)
C12Y 305/04015	. . Guanosine deaminase (3.5.4.15)
C12Y 305/04016	. . GTP cyclohydrolase I (3.5.4.16)
C12Y 305/04017	. . Adenosine-phosphate deaminase (3.5.4.17)
C12Y 305/04018	. . ATP deaminase (3.5.4.18)

C12Y 305/04019	. . Phosphoribosyl-AMP cyclohydrolase (3.5.4.19)
C12Y 305/0402	. . Pyrithiamine deaminase (3.5.4.20)
C12Y 305/04021	. . Creatinine deaminase (3.5.4.21)
C12Y 305/04022	. . 1-Pyrroline-4-hydroxy-2-carboxylate deaminase (3.5.4.22)
C12Y 305/04023	. . Blasticidin-S deaminase (3.5.4.23)
C12Y 305/04024	. . Sepiapterin deaminase (3.5.4.24)
C12Y 305/04025	. . GTP cyclohydrolase II (3.5.4.25)
C12Y 305/04026	. . Diaminohydroxyphosphoribosylaminopyrimidine deaminase (3.5.4.26)
C12Y 305/04027	. . Methenyltetrahydromethanopterin cyclohydrolase (3.5.4.27)
C12Y 305/04028	. . S-Adenosylhomocysteine deaminase (3.5.4.28)
C12Y 305/04029	. . GTP cyclohydrolase IIa (3.5.4.29)
C12Y 305/0403	. . dCTP deaminase (dUMP-forming) (3.5.4.30)
C12Y 305/04031	. . S-Methyl-5'-thioadenosine deaminase (3.5.4.31)
C12Y 305/04032	. . 8-Oxoguanine deaminase (3.5.4.32)
C12Y 305/05	. in nitriles (3.5.5)
C12Y 305/05001	. . Nitrilase (3.5.5.1)
C12Y 305/05002	. . Ricinine nitrilase (3.5.5.2)
C12Y 305/05004	. . Cyanoalanine nitrilase (3.5.5.4)
C12Y 305/05005	. . Arylacetonitrilase (3.5.5.5)
C12Y 305/05006	. . Bromoxynil nitrilase (3.5.5.6)
C12Y 305/05007	. . Aliphatic nitrilase (3.5.5.7)
C12Y 305/05008	. . Thiocyanate hydrolase (3.5.5.8)
C12Y 305/99	. in other compounds (3.5.99)
C12Y 305/99001	. . Riboflavinase (3.5.99.1)
C12Y 305/99002	. . Thiaminase (3.5.99.2)
C12Y 305/99003	. . Hydroxydechloroatrazine ethylaminohydrolase (3.5.99.3)
C12Y 305/99004	. . N-isopropylammelide isopropylaminohydrolase (3.5.99.4)
C12Y 305/99005	. . 2-Aminomuconate deaminase (3.5.99.5)
C12Y 305/99006	. . Glucosamine-6-phosphate deaminase (3.5.99.6)
C12Y 305/99007	. . 1-Aminocyclopropane-1-carboxylate deaminase (3.5.99.7)
C12Y 305/99008	. . 5-Nitroanthranilic acid aminohydrolase (3.5.99.8)
C12Y 305/99009	. . 2-Nitroimidazole nitrohydrolase (3.5.99.9)

**C12Y 306/00****Hydrolases acting on acid anhydrides (3.6)**

C12Y 306/01	. in phosphorus-containing anhydrides (3.6.1)
C12Y 306/01001	. . Inorganic diphosphatase (3.6.1.1)
C12Y 306/01002	. . Trimetaphosphatase (3.6.1.2)
C12Y 306/01003	. . Adenosine triphosphatase (3.6.1.3)
C12Y 306/01005	. . Apyrase (3.6.1.5), i.e. ATP diphosphohydrolase
C12Y 306/01006	. . Nucleoside-diphosphatase (3.6.1.6)

C12Y 306/01007	. . Acylphosphatase (3.6.1.7)
C12Y 306/01008	. . ATP diphosphatase (3.6.1.8)
C12Y 306/01009	. . Nucleotide diphosphatase (3.6.1.9), i.e. nucleotide-pyrophosphatase
C12Y 306/0101	. . Endopolyphosphatase (3.6.1.10)
C12Y 306/01011	. . Exopolyphosphatase (3.6.1.11)
C12Y 306/01012	. . dCTP diphosphatase (3.6.1.12)
C12Y 306/01013	. . ADP-ribose diphosphatase (3.6.1.13)
C12Y 306/01014	. . Adenosine-tetraphosphatase (3.6.1.14)
C12Y 306/01015	. . Nucleoside-triphosphatase (3.6.1.15)
C12Y 306/01016	. . CDP-glycerol diphosphatase (3.6.1.16)
C12Y 306/01017	. . Bis(5'-nucleosyl)-tetraphosphatase (asymmetrical) (3.6.1.17)
C12Y 306/01018	. . FAD diphosphatase (3.6.1.18)
C12Y 306/01019	. . Nucleoside-triphosphate diphosphatase (3.6.1.19)
C12Y 306/0102	. . 5'-Acylphosphoadenosine hydrolase (3.6.1.20)
C12Y 306/01021	. . ADP-sugar diphosphatase (3.6.1.21)
C12Y 306/01022	. . NAD <sup>+</sup> diphosphatase (3.6.1.22)
C12Y 306/01023	. . dUTP diphosphatase (3.6.1.23)
C12Y 306/01024	. . Nucleoside phosphoacylhydrolase (3.6.1.24)
C12Y 306/01025	. . Triphosphatase (3.6.1.25)
C12Y 306/01026	. . CDP-diacylglycerol diphosphatase (3.6.1.26)
C12Y 306/01027	. . Undecaprenyl-diphosphate phosphatase (3.6.1.27)
C12Y 306/01028	. . Thiamine-triphosphatase (3.6.1.28)
C12Y 306/01029	. . Bis(5'-adenosyl)-triphosphatase (3.6.1.29)
C12Y 306/0103	. . m7G(5')pppN diphosphatase (3.6.1.30) ( <a href="#">C12Y 306/01059</a> and <a href="#">C12Y 306/01062</a> take precedence)
C12Y 306/01031	. . Phosphoribosyl-ATP diphosphatase (3.6.1.31)
C12Y 306/01039	. . Thymidine-triphosphatase (3.6.1.39), i.e. T4 helicase
C12Y 306/0104	. . Guanosine-5'-triphosphate,3'-diphosphate diphosphatase (3.6.1.40)
C12Y 306/01041	. . Bis(5'-nucleosyl)-tetraphosphatase (symmetrical) (3.6.1.41)
C12Y 306/01042	. . Guanosine-diphosphatase (3.6.1.42)
C12Y 306/01043	. . Dolichyldiphosphatase (3.6.1.43)
C12Y 306/01044	. . Oligosaccharide-diphosphodolichol diphosphatase (3.6.1.44)
C12Y 306/01045	. . UDP-sugar diphosphatase (3.6.1.45)
C12Y 306/01052	. . Diphosphoinositol-polyphosphate diphosphatase (3.6.1.52)
C12Y 306/01053	. . Mn <sup>2+</sup> -dependent ADP-ribose/CDP-alcohol diphosphatase (3.6.1.53)
C12Y 306/01054	. . UDP-2,3-diacylglucosamine diphosphatase (3.6.1.54)
C12Y 306/01055	. . 8-Oxo-dGTP diphosphatase (3.6.1.55)
C12Y 306/01056	. . 2-Hydroxy-dATP diphosphatase (3.6.1.56)
C12Y 306/01057	. . UDP-2,4-diacetamido-2,4,6-trideoxy-beta-L-altropyranose hydrolase (3.6.1.57)
C12Y 306/01058	. . 8-Oxo-dGDP phosphatase (3.6.1.58)

C12Y 306/01059	. . m7GpppX diphosphatase (3.6.1.59)
C12Y 306/0106	. . Diadenosine hexaphosphate hydrolase (AMP-forming) (3.6.1.60)
C12Y 306/01061	. . Diadenosine hexaphosphate hydrolase (ATP-forming) (3.6.1.61)
C12Y 306/01062	. . m7GpppN-mRNA hydrolase (3.6.1.62)
C12Y 306/01063	. . Alpha-D-ribose 1-methylphosphonate 5-triphosphate diphosphatase (3.6.1.63)
C12Y 306/02	. in sulfonyl-containing anhydrides (3.6.2)
C12Y 306/02001	. . Adenylylsulfatase (3.6.2.1)
C12Y 306/02002	. . Phosphoadenylylsulfatase (3.6.2.2)
C12Y 306/03	. acting on acid anhydrides; catalysing transmembrane movement of substances (3.6.3)
C12Y 306/03001	. . Phospholipid-translocating ATPase (3.6.3.1), i.e. Mg <sup>2+</sup> -ATPase
C12Y 306/03002	. . Mg <sup>2+</sup> -importing ATPase (3.6.3.2)
C12Y 306/03003	. . Cd <sup>2+</sup> -exporting ATPase (3.6.3.3)
C12Y 306/03004	. . Cu <sup>2+</sup> -exporting ATPase (3.6.3.4)
C12Y 306/03005	. . Zn <sup>2+</sup> -exporting ATPase (3.6.3.5)
C12Y 306/03006	. . H <sup>+</sup> -exporting ATPase (3.6.3.6)
C12Y 306/03007	. . Na <sup>+</sup> -exporting ATPase (3.6.3.7)
C12Y 306/03008	. . Ca <sup>2+</sup> -transporting ATPase (3.6.3.8)
C12Y 306/03009	. . Na <sup>+</sup> /K <sup>+</sup> -exchanging ATPase (3.6.3.9)
C12Y 306/0301	. . H <sup>+</sup> /K <sup>+</sup> -exchanging ATPase (3.6.3.10)
C12Y 306/03011	. . Cl <sup>-</sup> -transporting ATPase (3.6.3.11)
C12Y 306/03012	. . K <sup>+</sup> -transporting ATPase (3.6.3.12)
C12Y 306/03014	. . H <sup>+</sup> -transporting two-sector ATPase (3.6.3.14), i.e. F1 ATPase
C12Y 306/03015	. . Na <sup>+</sup> -transporting two-sector ATPase (3.6.3.15)
C12Y 306/03016	. . Arsenite-transporting ATPase (3.6.3.16)
C12Y 306/03017	. . Monosaccharide-transporting ATPase (3.6.3.17)
C12Y 306/03018	. . Oligosaccharide-transporting ATPase (3.6.3.18)
C12Y 306/03019	. . Maltose-transporting ATPase (3.6.3.19)
C12Y 306/0302	. . Glycerol-3-phosphate-transporting ATPase (3.6.3.20)
C12Y 306/03021	. . Polar-amino-acid-transporting ATPase (3.6.3.21)
C12Y 306/03022	. . Nonpolar-amino-acid-transporting ATPase (3.6.3.22)
C12Y 306/03023	. . Oligopeptide-transporting ATPase (3.6.3.23)
C12Y 306/03024	. . Nickel-transporting ATPase (3.6.3.24)
C12Y 306/03025	. . Sulfate-transporting ATPase (3.6.3.25)
C12Y 306/03026	. . Nitrate-transporting ATPase (3.6.3.26)
C12Y 306/03027	. . Phosphate-transporting ATPase (3.6.3.27)
C12Y 306/03028	. . Phosphonate-transporting ATPase (3.6.3.28)
C12Y 306/03029	. . Molybdate-transporting ATPase (3.6.3.29)
C12Y 306/0303	. . Fe <sup>3+</sup> -transporting ATPase (3.6.3.30)
C12Y 306/03031	. . Polyamine-transporting ATPase (3.6.3.31)
C12Y 306/03032	. . Quaternary-amine-transporting ATPase (3.6.3.32)

C12Y 306/03033	. . Vitamin B12-transporting ATPase (3.6.3.33)
C12Y 306/03034	. . Iron-chelate-transporting ATPase (3.6.3.34)
C12Y 306/03035	. . Manganese-transporting ATPase (3.6.3.35)
C12Y 306/03036	. . Taurine-transporting ATPase (3.6.3.36)
C12Y 306/03037	. . Guanine-transporting ATPase (3.6.3.37)
C12Y 306/03038	. . Capsular-polysaccharide-transporting ATPase (3.6.3.38)
C12Y 306/03039	. . Lipopolysaccharide-transporting ATPase (3.6.3.39)
C12Y 306/0304	. . Teichoic-acid-transporting ATPase (3.6.3.40)
C12Y 306/03041	. . Heme-transporting ATPase (3.6.3.41)
C12Y 306/03042	. . Beta-glucan-transporting ATPase (3.6.3.42)
C12Y 306/03043	. . Peptide-transporting ATPase (3.6.3.43)
C12Y 306/03044	. . Xenobiotic-transporting ATPase (3.6.3.44)
C12Y 306/03046	. . Cadmium-transporting ATPase (3.6.3.46)
C12Y 306/03047	. . Fatty-acyl-CoA-transporting ATPase (3.6.3.47)
C12Y 306/03048	. . Alpha-factor-transporting ATPase (3.6.3.48)
C12Y 306/03049	. . Channel-conductance-controlling ATPase (3.6.3.49)
C12Y 306/0305	. . Protein-secreting ATPase (3.6.3.50)
C12Y 306/03051	. . Mitochondrial protein-transporting ATPase (3.6.3.51)
C12Y 306/03052	. . Chloroplast protein-transporting ATPase (3.6.3.52)
C12Y 306/03053	. . Ag <sup>+</sup> -exporting ATPase (3.6.3.53)
C12Y 306/04	. acting on acid anhydrides; involved in cellular and subcellular movement (3.6.4)
C12Y 306/04001	. . Myosin ATPase (3.6.4.1)
C12Y 306/04002	. . Dynein ATPase (3.6.4.2)
C12Y 306/04003	. . Microtubule-severing ATPase (3.6.4.3)
C12Y 306/04004	. . Plus-end-directed kinesin ATPase (3.6.4.4)
C12Y 306/04005	. . Minus-end-directed kinesin ATPase (3.6.4.5)
C12Y 306/04006	. . Vesicle-fusing ATPase (3.6.4.6)
C12Y 306/04007	. . Peroxisome-assembly ATPase (3.6.4.7)
C12Y 306/04008	. . Proteasome ATPase (3.6.4.8)
C12Y 306/04009	. . Chaperonin ATPase (3.6.4.9)
C12Y 306/0401	. . Non-chaperonin molecular chaperone ATPase (3.6.4.10)
C12Y 306/04011	. . Nucleoplasmin ATPase (3.6.4.11)
C12Y 306/04012	. . DNA helicase (3.6.4.12)
C12Y 306/04013	. . RNA helicase (3.6.4.13)
C12Y 306/05	. acting on GTP; involved in cellular and subcellular movement (3.6.5)
C12Y 306/05001	. . Heterotrimeric G-protein GTPase (3.6.5.1)
C12Y 306/05002	. . Small monomeric GTPase (3.6.5.2)
C12Y 306/05003	. . Protein-synthesizing GTPase (3.6.5.3)
C12Y 306/05004	. . Signal-recognition-particle GTPase (3.6.5.4)
C12Y 306/05005	. . Dynamin GTPase (3.6.5.5)

C12Y 306/05006 . . . Tubulin GTPase (3.6.5.6)

### **C12Y 307/00**

#### **Hydrolases acting on carbon-carbon bonds (3.7)**

C12Y 307/01 . . . in ketonic substances (3.7.1)

C12Y 307/01001 . . . Oxaloacetase (3.7.1.1)

C12Y 307/01002 . . . Fumarylacetoacetase (3.7.1.2)

C12Y 307/01003 . . . Kynureninase (3.7.1.3)

C12Y 307/01004 . . . Phloretin hydrolase (3.7.1.4)

C12Y 307/01005 . . . Acylpyruvate hydrolase (3.7.1.5)

C12Y 307/01006 . . . Acetylpyruvate hydrolase (3.7.1.6)

C12Y 307/01007 . . . Beta-diketone hydrolase (3.7.1.7)

C12Y 307/01008 . . . 2,6-Dioxo-6-phenylhexa-3-enoate hydrolase (3.7.1.8)

C12Y 307/01009 . . . 2-Hydroxymuconate-semialdehyde hydrolase (3.7.1.9)

C12Y 307/0101 . . . Cyclohexane-1,3-dione hydrolase (3.7.1.10)

C12Y 307/01011 . . . Cyclohexane-1,2-dione hydrolase (3.7.1.11)

C12Y 307/01012 . . . Cobalt-precorrin 5A hydrolase (3.7.1.12)

C12Y 307/01013 . . . 2-Hydroxy-6-oxo-6-(2-aminophenyl)hexa-2,4-dienoate hydrolase (3.7.1.13)

C12Y 307/01014 . . . 2-Hydroxy-6-oxonona-2,4-dienedioate hydrolase (3.7.1.14)

C12Y 307/01015 . . . (+)-Caryolan-1-ol synthase (3.7.1.15)

C12Y 307/01016 . . . Oxepin-CoA hydrolase (3.7.1.16)

C12Y 307/01017 . . . 4,5:9,10-Diseco-3-hydroxy-5,9,17-trioxoandrosta-1(10),2-diene-4-oate hydrolase (3.7.1.17)

C12Y 307/01018 . . . 6-Oxocamphor hydrolase (3.7.1.18)

C12Y 307/01019 . . . 2,6-Dihydroxypseudoxyonicotine hydrolase (3.7.1.19)

C12Y 307/0102 . . . 3-Fumarylpyruvate hydrolase (3.7.1.20)

### **C12Y 308/00**

#### **Hydrolases acting on halide bonds (3.8)**

C12Y 308/01 . . . in C-halide substances (3.8.1)

C12Y 308/01001 . . . Alkylhalidase (3.8.1.1)

C12Y 308/01002 . . . (S)-2-Haloacid dehalogenase (3.8.1.2)

C12Y 308/01003 . . . Haloacetate dehalogenase (3.8.1.3)

C12Y 308/01005 . . . Haloalkane dehalogenase (3.8.1.5)

C12Y 308/01006 . . . 4-Chlorobenzoate dehalogenase (3.8.1.6)

C12Y 308/01007 . . . 4-Chlorobenzoyl-CoA dehalogenase (3.8.1.7)

C12Y 308/01008 . . . Atrazine chlorohydrolase (3.8.1.8)

C12Y 308/01009 . . . (R)-2-Haloacid dehalogenase (3.8.1.9)

C12Y 308/0101 . . . 2-Haloacid dehalogenase (configuration-inverting) (3.8.1.10)

C12Y 308/01011 . . . 2-Haloacid dehalogenase (configuration-retaining) (3.8.1.11)

### **C12Y 309/00**

#### **Hydrolases acting on phosphorus-nitrogen bonds (3.9)**

C12Y 309/01 . . . acting on phosphorus-nitrogen bonds (3.9.1)



C12Y 309/01001	. . Phosphoamidase (3.9.1.1)
<b>C12Y 310/00</b>	<b>Hydrolases acting on sulfur-nitrogen bonds (3.10)</b>
C12Y 310/01	. acting on sulfur-nitrogen bonds (3.10.1)
C12Y 310/01001	. . N-Sulfoglucosamine sulfohydrolase (3.10.1.1)
C12Y 310/01002	. . Cyclamate sulfohydrolase (3.10.1.2)
<b>C12Y 311/00</b>	<b>Hydrolases acting on carbon-phosphorus bonds (3.11)</b>
C12Y 311/01	. acting on carbon-phosphorus bonds (3.11.1)
C12Y 311/01001	. . Phosphonoacetaldehyde hydrolase (3.11.1.1)
C12Y 311/01002	. . Phosphonoacetate hydrolase (3.11.1.2)
C12Y 311/01003	. . Phosphonopyruvate hydrolase (3.11.1.3)
<b>C12Y 312/00</b>	<b>Hydrolases acting on sulfur-sulfur bonds (3.12)</b>
C12Y 312/01	. acting on sulfur-sulfur bonds (3.12.1)
C12Y 312/01001	. . Trithionate hydrolase (3.12.1.1)
<b>C12Y 313/00</b>	<b>Hydrolases acting on carbon-sulfur bonds (3.13)</b>
C12Y 313/01	. acting on carbon-sulfur bonds (3.13.1)
C12Y 313/01001	. . UDP-sulfoquinovose synthase (3.13.1.1)
C12Y 313/01003	. . 2'-Hydroxybiphenyl-2-sulfinase (3.13.1.3)
<b>C12Y 401/00</b>	<b>Carbon-carbon lyases (4.1)</b>
C12Y 401/01	. Carboxy-lyases (4.1.1)
C12Y 401/01001	. . Pyruvate decarboxylase (4.1.1.1)
C12Y 401/01002	. . Oxalate decarboxylase (4.1.1.2)
C12Y 401/01003	. . Oxaloacetate decarboxylase (4.1.1.3)
C12Y 401/01004	. . Acetoacetate decarboxylase (4.1.1.4)
C12Y 401/01005	. . Acetolactate decarboxylase (4.1.1.5)
C12Y 401/01006	. . Aconitate decarboxylase (4.1.1.6)
C12Y 401/01007	. . Benzoylformate decarboxylase (4.1.1.7)
C12Y 401/01008	. . Oxalyl-CoA decarboxylase (4.1.1.8)
C12Y 401/01009	. . Malonyl-CoA decarboxylase (4.1.1.9)
C12Y 401/01011	. . Aspartate 1-decarboxylase (4.1.1.11)
C12Y 401/01012	. . Aspartate 4-decarboxylase (4.1.1.12)
C12Y 401/01014	. . Valine decarboxylase (4.1.1.14)
C12Y 401/01015	. . Glutamate decarboxylase (4.1.1.15)
C12Y 401/01016	. . Hydroxyglutamate decarboxylase (4.1.1.16)
C12Y 401/01017	. . Ornithine decarboxylase (4.1.1.17)
C12Y 401/01018	. . Lysine decarboxylase (4.1.1.18)
C12Y 401/01019	. . Arginine decarboxylase (4.1.1.19)
C12Y 401/0102	. . Diaminopimelate decarboxylase (4.1.1.20)

C12Y 401/01021	. .	Phosphoribosylaminoimidazole carboxylase (4.1.1.21)
C12Y 401/01022	. .	Histidine decarboxylase (4.1.1.22)
C12Y 401/01023	. .	Orotidine-5'-phosphate decarboxylase (4.1.1.23)
C12Y 401/01024	. .	Aminobenzoate decarboxylase (4.1.1.24)
C12Y 401/01025	. .	Tyrosine decarboxylase (4.1.1.25)
C12Y 401/01028	. .	Aromatic-L-amino-acid decarboxylase (4.1.1.28), i.e. tryptophane-decarboxylase
C12Y 401/01029	. .	Sulfinoalanine decarboxylase (4.1.1.29)
C12Y 401/0103	. .	Pantothenoylcysteine decarboxylase (4.1.1.30)
C12Y 401/01031	. .	Phosphoenolpyruvate carboxylase (4.1.1.31)
C12Y 401/01032	. .	Phosphoenolpyruvate carboxykinase (GTP) (4.1.1.32)
C12Y 401/01033	. .	Diphosphomevalonate decarboxylase (4.1.1.33), i.e. mevalonate-pyrophosphate decarboxylase
C12Y 401/01034	. .	Dehydro-L-gulonate decarboxylase (4.1.1.34)
C12Y 401/01035	. .	UDP-glucuronate decarboxylase (4.1.1.35), i.e. UDP-D-xylose synthase
C12Y 401/01036	. .	Phosphopantothenoylcysteine decarboxylase (4.1.1.36)
C12Y 401/01037	. .	Uroporphyrinogen decarboxylase (4.1.1.37)
C12Y 401/01038	. .	Phosphoenolpyruvate carboxykinase (diphosphate) (4.1.1.38)
C12Y 401/01039	. .	Ribulose-bisphosphate carboxylase (4.1.1.39)
C12Y 401/0104	. .	Hydroxypyruvate decarboxylase (4.1.1.40)
C12Y 401/01041	. .	Methylmalonyl-CoA decarboxylase (4.1.1.41)
C12Y 401/01042	. .	Carnitine decarboxylase (4.1.1.42)
C12Y 401/01043	. .	Phenylpyruvate decarboxylase (4.1.1.43)
C12Y 401/01044	. .	4-Carboxymuconolactone decarboxylase (4.1.1.44)
C12Y 401/01045	. .	Aminocarboxymuconate-semialdehyde decarboxylase (4.1.1.45)
C12Y 401/01046	. .	o-Pyrocatechuate decarboxylase (4.1.1.46)
C12Y 401/01047	. .	Tartronate-semialdehyde synthase (4.1.1.47)
C12Y 401/01048	. .	Indole-3-glycerol-phosphate synthase (4.1.1.48)
C12Y 401/01049	. .	Phosphoenolpyruvate carboxykinase (ATP) (4.1.1.49)
C12Y 401/0105	. .	Adenosylmethionine decarboxylase (4.1.1.50)
C12Y 401/01051	. .	3-Hydroxy-2-methylpyridine-4,5-dicarboxylate 4-decarboxylase (4.1.1.51)
C12Y 401/01052	. .	6-Methylsalicylate decarboxylase (4.1.1.52)
C12Y 401/01053	. .	Phenylalanine decarboxylase (4.1.1.53)
C12Y 401/01054	. .	Dihydroxyfumarate decarboxylase (4.1.1.54)
C12Y 401/01055	. .	4,5-Dihydroxyphthalate decarboxylase (4.1.1.55)
C12Y 401/01056	. .	3-Oxolaurate decarboxylase (4.1.1.56)
C12Y 401/01057	. .	Methionine decarboxylase (4.1.1.57)
C12Y 401/01058	. .	Orsellinate decarboxylase (4.1.1.58)
C12Y 401/01059	. .	Gallate decarboxylase (4.1.1.59)
C12Y 401/0106	. .	Stipitatonate decarboxylase (4.1.1.60)
C12Y 401/01061	. .	4-Hydroxybenzoate decarboxylase (4.1.1.61)

C12Y 401/01062	. . Gentisate decarboxylase (4.1.1.62)
C12Y 401/01063	. . Protocatechuate decarboxylase (4.1.1.63)
C12Y 401/01064	. . 2,2-Dialkylglycine decarboxylase (pyruvate) (4.1.1.64)
C12Y 401/01065	. . Phosphatidylserine decarboxylase (4.1.1.65)
C12Y 401/01066	. . Uracil-5-carboxylate decarboxylase (4.1.1.66)
C12Y 401/01067	. . UDP-galacturonate decarboxylase (4.1.1.67)
C12Y 401/01068	. . 5-Oxopent-3-ene-1,2,5-tricarboxylate decarboxylase (4.1.1.68)
C12Y 401/01069	. . 3,4-Dihydroxyphthalate decarboxylase (4.1.1.69)
C12Y 401/0107	. . Glutaconyl-CoA decarboxylase (4.1.1.70)
C12Y 401/01071	. . 2-Oxoglutarate decarboxylase (4.1.1.71)
C12Y 401/01072	. . Branched-chain-2-oxoacid decarboxylase (4.1.1.72)
C12Y 401/01073	. . Tartrate decarboxylase (4.1.1.73)
C12Y 401/01074	. . Indolepyruvate decarboxylase (4.1.1.74)
C12Y 401/01075	. . 5-Guanidino-2-oxopentanoate decarboxylase (4.1.1.75)
C12Y 401/01076	. . Arylmalonate decarboxylase (4.1.1.76)
C12Y 401/01077	. . 2-Oxo-3-hexenedioate decarboxylase (4.1.1.77)
C12Y 401/01078	. . Acetylenedicarboxylate decarboxylase (4.1.1.78)
C12Y 401/01079	. . Sulfoxyruvate decarboxylase (4.1.1.79)
C12Y 401/0108	. . 4-Hydroxyphenylpyruvate decarboxylase (4.1.1.80)
C12Y 401/01081	. . Threonine-phosphate decarboxylase (4.1.1.81)
C12Y 401/01082	. . Phosphonopyruvate decarboxylase (4.1.1.82)
C12Y 401/01083	. . 4-Hydroxyphenylacetate decarboxylase (4.1.1.83)
C12Y 401/01084	. . D-Dopachrome decarboxylase (4.1.1.84)
C12Y 401/01085	. . 3-Dehydro-L-gulonate-6-phosphate decarboxylase (4.1.1.85)
C12Y 401/01086	. . Diaminobutyrate decarboxylase (4.1.1.86)
C12Y 401/01087	. . Malonyl-S-ACP decarboxylase (4.1.1.87)
C12Y 401/01088	. . Biotin-independent malonate decarboxylase (4.1.1.88)
C12Y 401/01089	. . Biotin-dependent malonate decarboxylase (4.1.1.89)
C12Y 401/0109	. . Peptidyl-glutamate 4-carboxylase (4.1.1.90)
C12Y 401/01091	. . Salicylate decarboxylase (4.1.1.91)
C12Y 401/01092	. . Indole-3-carboxylate decarboxylase (4.1.1.92)
C12Y 401/01093	. . Pyrrole-2-carboxylate decarboxylase (4.1.1.93)
C12Y 401/01094	. . Ethylmalonyl-CoA decarboxylase (4.1.1.94)
C12Y 401/01095	. . L-Glutamyl-[BtrL acyl-carrier protein] decarboxylase (4.1.1.95)
C12Y 401/01096	. . Carboxynorspermidine decarboxylase (4.1.1.96)
C12Y 401/02	. Aldehyde-lyases (4.1.2)
C12Y 401/02002	. . Ketotetrose-phosphate aldolase (4.1.2.2)
C12Y 401/02004	. . Deoxyribose-phosphate aldolase (4.1.2.4)
C12Y 401/02005	. . L-Threonine aldolase (4.1.2.5)
C12Y 401/02008	. . Indole-3-glycerol-phosphate lyase (4.1.2.8)

C12Y 401/02009	. . Phosphoketolase (4.1.2.9)
C12Y 401/0201	. . (R)-Mandelonitrile lyase (4.1.2.10)
C12Y 401/02011	. . Hydroxymandelonitrile lyase (4.1.2.11)
C12Y 401/02012	. . 2-Dehydropantoate aldolase (4.1.2.12), i.e. ketopantoaldolase
C12Y 401/02013	. . Fructose-bisphosphate aldolase (4.1.2.13)
C12Y 401/02014	. . 2-Dehydro-3-deoxy-phosphogluconate aldolase (4.1.2.14)
C12Y 401/02017	. . L-Fucose-phosphate aldolase (4.1.2.17)
C12Y 401/02018	. . 2-Dehydro-3-deoxy-L-pentonate aldolase (4.1.2.18)
C12Y 401/02019	. . Rhamnulose-1-phosphate aldolase (4.1.2.19)
C12Y 401/0202	. . 2-Dehydro-3-deoxyglucarate aldolase (4.1.2.20)
C12Y 401/02021	. . 2-Dehydro-3-deoxy-6-phosphogalactonate aldolase (4.1.2.21)
C12Y 401/02022	. . Fructose-6-phosphate phosphoketolase (4.1.2.22)
C12Y 401/02023	. . 3-Deoxy-D-manno-octulosonate aldolase (4.1.2.23)
C12Y 401/02024	. . Dimethylaniline-N-oxide aldolase (4.1.2.24)
C12Y 401/02025	. . Dihydroneopterin aldolase (4.1.2.25)
C12Y 401/02026	. . Phenylserine aldolase (4.1.2.26)
C12Y 401/02027	. . Sphinganine-1-phosphate aldolase (4.1.2.27)
C12Y 401/02028	. . 2-Dehydro-3-deoxy-D-pentonate aldolase (4.1.2.28)
C12Y 401/02029	. . 5-Dehydro-2-deoxyphosphogluconate aldolase (4.1.2.29)
C12Y 401/0203	. . 17-Alpha-hydroxyprogesterone aldolase (4.1.2.30)
C12Y 401/02032	. . Trimethylamine-oxide aldolase (4.1.2.32)
C12Y 401/02033	. . Fucosterol-epoxide lyase (4.1.2.33)
C12Y 401/02034	. . 4-(2-carboxyphenyl)-2-oxobut-3-enoate aldolase (4.1.2.34)
C12Y 401/02035	. . Propioin synthase (4.1.2.35)
C12Y 401/02036	. . Lactate aldolase (4.1.2.36)
C12Y 401/02037	. . Hydroxynitrilase (4.1.2.37) ( <a href="#">C12Y 401/02046</a> , <a href="#">C12Y 401/02047</a> take precedence)
C12Y 401/02038	. . Benzoin aldolase (4.1.2.38)
C12Y 401/0204	. . Tagatose-bisphosphate aldolase (4.1.2.40)
C12Y 401/02041	. . Vanillin synthase (4.1.2.41)
C12Y 401/02042	. . D-Threonine aldolase (4.1.2.42)
C12Y 401/02043	. . 3-Hexulose-6-phosphate synthase (4.1.2.43)
C12Y 401/02044	. . Benzoyl-CoA-dihydrodiol lyase (4.1.2.44)
C12Y 401/02045	. . Trans-o-hydroxybenzylidenepyruvate hydratase-aldolase (4.1.2.45)
C12Y 401/02046	. . Aliphatic (R)-hydroxynitrile lyase (4.1.2.46)
C12Y 401/02047	. . (S)-Hydroxynitrile lyase (4.1.2.47)
C12Y 401/02048	. . Low-specificity L-threonine aldolase (4.1.2.48)
C12Y 401/02049	. . L-Allo-threonine aldolase (4.1.2.49)
C12Y 401/0205	. . 6-Carboxytetrahydropterin synthase (4.1.2.50)
C12Y 401/03	. . Oxo-acid-lyases (4.1.3)
C12Y 401/03001	. . Isocitrate lyase (4.1.3.1)

C12Y 401/03003	. . N-Acetylneuraminate lyase (4.1.3.3)
C12Y 401/03004	. . Hydroxymethylglutaryl-CoA lyase (4.1.3.4)
C12Y 401/03006	. . Citrate (pro-3S)-lyase (4.1.3.6)
C12Y 401/03013	. . Oxalomalate lyase (4.1.3.13)
C12Y 401/03014	. . L-Erythro-3-hydroxyaspartate aldolase (4.1.3.14)
C12Y 401/03016	. . 4-Hydroxy-2-oxoglutarate aldolase (4.1.3.16)
C12Y 401/03017	. . 4-Hydroxy-4-methyl-2-oxoglutarate aldolase (4.1.3.17)
C12Y 401/03022	. . Citramalate lyase (4.1.3.22)
C12Y 401/03024	. . Malyl-CoA lyase (4.1.3.24)
C12Y 401/03025	. . Citramalyl-CoA lyase (4.1.3.25)
C12Y 401/03026	. . 3-Hydroxy-3-isohexenylglutaryl-CoA lyase (4.1.3.26)
C12Y 401/03027	. . Anthranilate synthase (4.1.3.27)
C12Y 401/0303	. . Methylisocitrate lyase (4.1.3.30)
C12Y 401/03032	. . 2,3-Dimethylmalate lyase (4.1.3.32)
C12Y 401/03034	. . Citryl-CoA lyase (4.1.3.34)
C12Y 401/03035	. . (1-hydroxycyclohexan-1-yl)acetyl-CoA lyase (4.1.3.35)
C12Y 401/03036	. . 1,4-Dihydroxy-2-naphthoyl-CoA synthase (4.1.3.36)
C12Y 401/03038	. . Aminodeoxychorismate lyase (4.1.3.38)
C12Y 401/03039	. . 4-Hydroxy-2-oxovalerate aldolase (4.1.3.39)
C12Y 401/0304	. . Chorismate lyase (4.1.3.40)
C12Y 401/03041	. . 3-Hydroxy-D-aspartate aldolase (4.1.3.41)
C12Y 401/99	. Other Carbon-Carbon Lyases (1.4.99)
C12Y 401/99001	. . Tryptophanase (4.1.99.1)
C12Y 401/99002	. . Tyrosine phenol-lyase (4.1.99.2)
C12Y 401/99003	. . Deoxyribodipyrimidine photo-lyase (4.1.99.3)
C12Y 401/99005	. . Octadecanal decarbonylase (4.1.99.5)
C12Y 401/99011	. . Benzylsuccinate synthase (4.1.99.11)
C12Y 401/99012	. . 3,4-Dihydroxy-2-butanone-4-phosphate synthase (4.1.99.12)
C12Y 401/99013	. . (6-4)DNA photolyase (4.1.99.13)
C12Y 401/99014	. . Spore photoproduct lyase (4.1.99.14)
C12Y 401/99016	. . Geosmin synthase (4.1.99.16)
C12Y 401/99017	. . Phosphomethylpyrimidine synthase (4.1.99.17)
C12Y 401/99018	. . Cyclic pyranopterin monophosphate synthase (4.1.99.18)
C12Y 401/99019	. . 2-Iminoacetate synthase (4.1.99.19)
<b>C12Y 402/00</b>	<b>Carbon-oxygen lyases (4.2)</b>
C12Y 402/01	. Hydro-lyases (4.2.1)
C12Y 402/01001	. . Carbonate dehydratase (4.2.1.1), i.e. carbonic anhydrase
C12Y 402/01002	. . Fumarate hydratase (4.2.1.2)
C12Y 402/01003	. . Aconitate hydratase (4.2.1.3)

C12Y 402/01004	. . Citrate dehydratase (4.2.1.4)
C12Y 402/01005	. . Arabinonate dehydratase (4.2.1.5)
C12Y 402/01006	. . Galactonate dehydratase (4.2.1.6)
C12Y 402/01007	. . Altronate dehydratase (4.2.1.7)
C12Y 402/01008	. . Mannonate dehydratase (4.2.1.8)
C12Y 402/01009	. . Dihydroxy-acid dehydratase (4.2.1.9), i.e. acetohydroxyacid dehydratase
C12Y 402/0101	. . 3-Dehydroquinate dehydratase (4.2.1.10)
C12Y 402/01011	. . Phosphopyruvate hydratase (4.2.1.11), i.e. enolase
C12Y 402/01012	. . Phosphogluconate dehydratase (4.2.1.12)
C12Y 402/01017	. . Enoyl-CoA hydratase (4.2.1.17), i.e. crotonase
C12Y 402/01018	. . Methylglutaconyl-CoA hydratase (4.2.1.18)
C12Y 402/01019	. . Imidazoleglycerol-phosphate dehydratase (4.2.1.19)
C12Y 402/0102	. . Tryptophan synthase (4.2.1.20)
C12Y 402/01022	. . Cystathionine beta-synthase (4.2.1.22)
C12Y 402/01024	. . Porphobilinogen synthase (4.2.1.24)
C12Y 402/01025	. . L-Arabinonate dehydratase (4.2.1.25)
C12Y 402/01027	. . Acetylenecarboxylate hydratase (4.2.1.27)
C12Y 402/01028	. . Propanediol dehydratase (4.2.1.28)
C12Y 402/0103	. . Glycerol dehydratase (4.2.1.30)
C12Y 402/01031	. . Maleate hydratase (4.2.1.31)
C12Y 402/01032	. . L(+)-Tartrate dehydratase (4.2.1.32)
C12Y 402/01033	. . 3-Isopropylmalate dehydratase (4.2.1.33)
C12Y 402/01034	. . (S)-2-Methylmalate dehydratase (4.2.1.34)
C12Y 402/01035	. . (R)-2-Methylmalate dehydratase (4.2.1.35)
C12Y 402/01036	. . Homoaconitate hydratase (4.2.1.36)
C12Y 402/01039	. . Gluconate dehydratase (4.2.1.39)
C12Y 402/0104	. . Glucarate dehydratase (4.2.1.40)
C12Y 402/01041	. . 5-Dehydro-4-deoxyglucarate dehydratase (4.2.1.41)
C12Y 402/01042	. . Galactarate dehydratase (4.2.1.42)
C12Y 402/01043	. . 2-Dehydro-3-deoxy-L-arabinonate dehydratase (4.2.1.43)
C12Y 402/01044	. . Myo-inosose-2 dehydratase (4.2.1.44)
C12Y 402/01045	. . CDP-glucose 4,6-dehydratase (4.2.1.45)
C12Y 402/01046	. . dTDP-glucose 4,6-dehydratase (4.2.1.46)
C12Y 402/01047	. . GDP-mannose 4,6-dehydratase (4.2.1.47), i.e. GMD
C12Y 402/01048	. . D-Glutamate cyclase (4.2.1.48)
C12Y 402/01049	. . Urocanate hydratase (4.2.1.49)
C12Y 402/0105	. . Pyrazolylalanine synthase (4.2.1.50)
C12Y 402/01051	. . Prephenate dehydratase (4.2.1.51)
C12Y 402/01053	. . Oleate hydratase (4.2.1.53)
C12Y 402/01054	. . Lactoyl-CoA dehydratase (4.2.1.54)



C12Y 402/01055	. . 3-Hydroxybutyryl-CoA dehydratase (4.2.1.55)
C12Y 402/01056	. . Itaconyl-CoA hydratase (4.2.1.56)
C12Y 402/01057	. . Isohexenyglutaconyl-CoA hydratase (4.2.1.57)
C12Y 402/01059	. . 3-Hydroxyacyl-[acyl-carrier-protein] dehydratase (4.2.1.59)
C12Y 402/01062	. . 5-Alpha-hydroxysteroid dehydratase (4.2.1.62)
C12Y 402/01065	. . 3-Cyanoalanine hydratase (4.2.1.65)
C12Y 402/01066	. . Cyanide hydratase (4.2.1.66)
C12Y 402/01067	. . D-Fuconate dehydratase (4.2.1.67)
C12Y 402/01068	. . L-Fuconate dehydratase (4.2.1.68)
C12Y 402/01069	. . Cyanamide hydratase (4.2.1.69)
C12Y 402/0107	. . Pseudouridylate synthase (4.2.1.70)
C12Y 402/01073	. . Protoaphin-aglucone dehydratase (cyclizing) (4.2.1.73)
C12Y 402/01074	. . Long-chain-enoyl-CoA hydratase (4.2.1.74)
C12Y 402/01075	. . Uroporphyrinogen-III synthase (4.2.1.75)
C12Y 402/01076	. . UDP-glucose 4,6-dehydratase (4.2.1.76)
C12Y 402/01077	. . Trans-L-3-hydroxyproline dehydratase (4.2.1.77)
C12Y 402/01078	. . (S)-norcoclaurine synthase (4.2.1.78)
C12Y 402/01079	. . 2-Methylcitrate dehydratase (4.2.1.79)
C12Y 402/0108	. . 2-Oxopent-4-enoate hydratase (4.2.1.80)
C12Y 402/01081	. . D(-)-tartrate dehydratase (4.2.1.81)
C12Y 402/01082	. . Xylonate dehydratase (4.2.1.82)
C12Y 402/01083	. . 4-Oxalmesaconate hydratase (4.2.1.83)
C12Y 402/01084	. . Nitrile hydratase (4.2.1.84)
C12Y 402/01085	. . Dimethylmaleate hydratase (4.2.1.85)
C12Y 402/01087	. . Octopamine dehydratase (4.2.1.87)
C12Y 402/01088	. . Synephrine dehydratase (4.2.1.88)
C12Y 402/01089	. . Carnitine dehydratase (4.2.1.89)
C12Y 402/0109	. . L-Rhamnonate dehydratase (4.2.1.90)
C12Y 402/01091	. . Arogenate dehydratase (4.2.1.91)
C12Y 402/01092	. . Hydroperoxide dehydratase (4.2.1.92)
C12Y 402/01093	. . ATP-dependent NAD(P)H-hydrate dehydratase (4.2.1.93)
C12Y 402/01094	. . Scytalone dehydratase (4.2.1.94)
C12Y 402/01095	. . Kievitone hydratase (4.2.1.95)
C12Y 402/01096	. . 4a-Hydroxytetrahydrobiopterin dehydratase (4.2.1.96)
C12Y 402/01097	. . Phaseollidin hydratase (4.2.1.97)
C12Y 402/01098	. . 16-Alpha-hydroxyprogesterone dehydratase (4.2.1.98)
C12Y 402/01099	. . 2-Methylisocitrate dehydratase (4.2.1.99)
C12Y 402/011	. . Cyclohexa-1,5-dienecarbonyl-CoA hydratase (4.2.1.100)
C12Y 402/01101	. . Trans-feruloyl-CoA hydratase (4.2.1.101)
C12Y 402/01103	. . Cyclohexyl-isocyanide hydratase (4.2.1.103)

C12Y 402/01104	. . Cyanase (4.2.1.104)
C12Y 402/01105	. . 2-Hydroxyisoflavanone dehydratase (4.2.1.105)
C12Y 402/01106	. . Bile-acid 7-alpha-dehydratase (4.2.1.106)
C12Y 402/01107	. . 3-Alpha,7-alpha,12-alpha-trihydroxy-5-beta-cholest-24-enoyl-CoA hydratase (4.2.1.107)
C12Y 402/01108	. . Ectoine synthase (4.2.1.108)
C12Y 402/01109	. . Methylthioribulose 1-phosphate dehydratase (4.2.1.109)
C12Y 402/0111	. . Aldos-2-ulose dehydratase (4.2.1.110)
C12Y 402/01111	. . 1,5-Anhydro-D-fructose dehydratase (4.2.1.111)
C12Y 402/01112	. . Acetylene hydratase (4.2.1.112)
C12Y 402/01113	. . o-Succinylbenzoate synthase (4.2.1.113)
C12Y 402/01114	. . Methanogen homoaconitase (4.2.1.114)
C12Y 402/01115	. . UDP-N-acetylglucosamine 4,6-dehydratase (inverting) (4.2.1.115)
C12Y 402/01116	. . 3-Hydroxypropionyl-CoA dehydratase (4.2.1.116)
C12Y 402/01117	. . 2-Methylcitrate dehydratase (2-methyl-trans-aconitate forming)(4.2.1.117)
C12Y 402/01118	. . 3-Dehydroshikimate dehydratase (4.2.1.118)
C12Y 402/01119	. . Enoyl-CoA hydratase 2 (4.2.1.119)
C12Y 402/0112	. . 4-Hydroxybutanoyl-CoA dehydratase (4.2.1.120)
C12Y 402/01121	. . Colneleate synthase (4.2.1.121)
C12Y 402/01122	. . Tryptophan synthase (indole-salvaging) (4.2.1.122)
C12Y 402/01123	. . Tetrahymanol synthase (4.2.1.123)
C12Y 402/01124	. . Arabidiol synthase (4.2.1.124)
C12Y 402/01125	. . Dammarenediol II synthase (4.2.1.125)
C12Y 402/01126	. . N-Acetylmuramic acid 6-phosphate etherase (4.2.1.126)
C12Y 402/01127	. . Linalool dehydratase (4.2.1.127)
C12Y 402/01128	. . Lupan-3-beta,20-diol synthase (4.2.1.128)
C12Y 402/01129	. . Squalene--hopanol cyclase (4.2.1.129)
C12Y 402/0113	. . D-Lactate dehydratase (4.2.1.130)
C12Y 402/01131	. . Carotenoid 1,2-hydratase (4.2.1.131)
C12Y 402/01132	. . 2-Hydroxyhexa-2,4-dienoate hydratase (4.2.1.132)
C12Y 402/01133	. . Copal-8-ol diphosphate hydratase (4.2.1.133)
C12Y 402/01134	. . Very-long-chain (3R)-3-hydroxyacyl-[acyl-carrier protein] dehydratase (4.2.1.134)
C12Y 402/01135	. . UDP-N-acetylglucosamine 4,6-dehydratase (configuration-retaining) (4.2.1.135)
C12Y 402/01136	. . ADP-dependent NAD(P)H-hydrate dehydratase (4.2.1.136)
C12Y 402/01137	. . Sporulenol synthase (4.2.1.137)
C12Y 402/02	. acting on polysaccharides (4.2.2)
C12Y 402/02001	. . Hyaluronate lyase (4.2.2.1)
C12Y 402/02002	. . Pectate lyase (4.2.2.2)
C12Y 402/02003	. . Poly(beta-D-mannuronate) lyase (4.2.2.3)

<a href="#">C12Y 402/02004</a>	. . Chondroitin ABC lyase (4.2.2.4), i.e. chondroitinase ( <a href="#">C12Y 402/0202</a> or <a href="#">C12Y 402/02021</a> takes precedence)
<a href="#">C12Y 402/02005</a>	. . Chondroitin AC lyase (4.2.2.5)
<a href="#">C12Y 402/02006</a>	. . Oligogalacturonide lyase (4.2.2.6)
<a href="#">C12Y 402/02007</a>	. . Heparin lyase (4.2.2.7), i.e. heparinase I
<a href="#">C12Y 402/02008</a>	. . Heparin-sulfate lyase (4.2.2.8)
<a href="#">C12Y 402/02009</a>	. . Pectate disaccharide-lyase (4.2.2.9)
<a href="#">C12Y 402/0201</a>	. . Pectin lyase (4.2.2.10)
<a href="#">C12Y 402/02011</a>	. . Poly(alpha-L-gulonate) lyase (4.2.2.11), i.e. alginase II
<a href="#">C12Y 402/02012</a>	. . Xanthan lyase (4.2.2.12)
<a href="#">C12Y 402/02013</a>	. . Exo-(1->4)-alpha-D-glucan lyase (4.2.2.13)
<a href="#">C12Y 402/02014</a>	. . Glucuronan lyase (4.2.2.14)
<a href="#">C12Y 402/02015</a>	. . Anhydrosialidase (4.2.2.15)
<a href="#">C12Y 402/02016</a>	. . Levan fructotransferase (DFA-IV-forming) (4.2.2.16)
<a href="#">C12Y 402/02017</a>	. . Inulin fructotransferase (DFA-I-forming) (4.2.2.17)
<a href="#">C12Y 402/02018</a>	. . Inulin fructotransferase (DFA-III-forming) (4.2.2.18)
<a href="#">C12Y 402/02019</a>	. . Chondroitin B lyase (4.2.2.19)
<a href="#">C12Y 402/0202</a>	. . Chondroitin-sulfate-ABC endolyase (4.2.2.20)
<a href="#">C12Y 402/02021</a>	. . Chondroitin-sulfate-ABC exolyase (4.2.2.21)
<a href="#">C12Y 402/02022</a>	. . Pectate trisaccharide-lyase (4.2.2.22)
<a href="#">C12Y 402/02023</a>	. . Rhamnogalacturonan endolyase (4.2.2.23)
<a href="#">C12Y 402/02024</a>	. . Rhamnogalacturonan exolyase (4.2.2.24)
<a href="#">C12Y 402/02025</a>	. . Gellan lyase (4.2.2.25)
<a href="#">C12Y 402/03</a>	. acting on phosphates (4.2.3)
<a href="#">C12Y 402/03001</a>	. . Threonine synthase (4.2.3.1)
<a href="#">C12Y 402/03002</a>	. . Ethanolamine-phosphate phospho-lyase (4.2.3.2)
<a href="#">C12Y 402/03003</a>	. . Methylglyoxal synthase (4.2.3.3)
<a href="#">C12Y 402/03004</a>	. . 3-Dehydroquinate synthase (4.2.3.4)
<a href="#">C12Y 402/03005</a>	. . Chorismate synthase (4.2.3.5)
<a href="#">C12Y 402/03006</a>	. . Trichodiene synthase (4.2.3.6)
<a href="#">C12Y 402/03007</a>	. . Pentalenene synthase (4.2.3.7)
<a href="#">C12Y 402/03008</a>	. . Casbene synthase (4.2.3.8)
<a href="#">C12Y 402/03009</a>	. . Aristolochene synthase (4.2.3.9)
<a href="#">C12Y 402/0301</a>	. . (-)-Endo-fenchol synthase (4.2.3.10)
<a href="#">C12Y 402/03011</a>	. . Sabinene-hydrate synthase (4.2.3.11)
<a href="#">C12Y 402/03012</a>	. . 6-Pyruvoyltetrahydropterin synthase (4.2.3.12)
<a href="#">C12Y 402/03013</a>	. . (+)-Delta-cadinene synthase (4.2.3.13)
<a href="#">C12Y 402/03014</a>	. . Pinene synthase (4.2.3.14) ( <a href="#">C12Y 402/03119</a> and <a href="#">C12Y 402/0312</a> take precedence)
<a href="#">C12Y 402/03015</a>	. . Myrcene synthase (4.2.3.15)

C12Y 402/03016	. . (4S)-Limonene synthase (4.2.3.16)
C12Y 402/03017	. . Taxadiene synthase (4.2.3.17)
C12Y 402/03018	. . Abieta-7,13-diene synthase (4.2.3.18)
C12Y 402/03019	. . Ent-kaurene synthase (4.2.3.19)
C12Y 402/0302	. . (R)-Limonene synthase (4.2.3.20)
C12Y 402/03021	. . Vetispiradiene synthase (4.2.3.21)
C12Y 402/03022	. . Germacradienol synthase (4.2.3.22)
C12Y 402/03023	. . Germacrene-A synthase (4.2.3.23)
C12Y 402/03024	. . Amorpha-4,11-diene synthase (4.2.3.24)
C12Y 402/03025	. . S-Linalool synthase (4.2.3.25)
C12Y 402/03026	. . R-Linalool synthase (4.2.3.26)
C12Y 402/03027	. . Isoprene synthase (4.2.3.27)
C12Y 402/03028	. . Ent-cassa-12,15-diene synthase (4.2.3.28)
C12Y 402/03029	. . Ent-sandaracopimaradiene synthase (4.2.3.29)
C12Y 402/0303	. . Ent-pimara-8(14),15-diene synthase (4.2.3.30)
C12Y 402/03031	. . Ent-pimara-9(11),15-diene synthase (4.2.3.31)
C12Y 402/03032	. . Levopimaradiene synthase (4.2.3.32)
C12Y 402/03033	. . Stemar-13-ene synthase (4.2.3.33)
C12Y 402/03034	. . Stemod-13(17)-ene synthase (4.2.3.34)
C12Y 402/03035	. . Syn-pimara-7,15-diene synthase (4.2.3.35)
C12Y 402/03036	. . Terpentetriene synthase (4.2.3.36)
C12Y 402/03037	. . Epi-isozizaene synthase (4.2.3.37)
C12Y 402/03038	. . Alpha-bisabolene synthase (4.2.3.38)
C12Y 402/03039	. . Epi-cedrol synthase (4.2.3.39)
C12Y 402/0304	. . (Z)-Gamma-bisabolene synthase (4.2.3.40)
C12Y 402/03041	. . Elisabethatriene synthase (4.2.3.41)
C12Y 402/03042	. . Aphidicolan-16-beta-ol synthase (4.2.3.42)
C12Y 402/03043	. . Fusicocca-2,10(14)-diene synthase (4.2.3.43)
C12Y 402/03044	. . Isopimara-7,15-diene synthase (4.2.3.44)
C12Y 402/03045	. . Phyllocladan-16-alpha-ol synthase (4.2.3.45)
C12Y 402/03046	. . Alpha-farnesene synthase (4.2.3.46)
C12Y 402/03047	. . Beta-farnesene synthase (4.2.3.47)
C12Y 402/03048	. . (3S,6E)-Nerolidol synthase (4.2.3.48)
C12Y 402/03049	. . (3R,6E)-Nerolidol synthase (4.2.3.49)
C12Y 402/0305	. . (+)-Alpha-santalene synthase ((2Z,6Z)-farnesyl diphosphate cyclizing)(4.2.3.50)
C12Y 402/03051	. . Beta-phellandrene synthase (neryl-diphosphate-cyclizing) (4.2.3.51)
C12Y 402/03052	. . (4S)-Beta-phellandrene synthase (geranyl-diphosphate-cyclizing) (4.2.3.52)
C12Y 402/03053	. . (+)-Endo-beta-bergamotene synthase ((2Z,6Z)-farnesyl diphosphate cyclizing) (4.2.3.53)

C12Y 402/03054	. . (-)-Endo-alpha-bergamotene synthase ((2Z,6Z)-farnesyl diphosphate cyclizing) (4.2.3.54)
C12Y 402/03055	. . (S)-Beta-bisabolene synthase (4.2.3.55)
C12Y 402/03056	. . Gamma-humulene synthase (4.2.3.56)
C12Y 402/03057	. . Beta-caryophyllene synthase (4.2.3.57)
C12Y 402/03058	. . Longifolene synthase (4.2.3.58)
C12Y 402/03059	. . (E)-Gamma-bisabolene synthase (4.2.3.59)
C12Y 402/0306	. . Germacrene C synthase (4.2.3.60)
C12Y 402/03061	. . 5-Epiaristolochene synthase (4.2.3.61)
C12Y 402/03062	. . (-)-Gamma-cadinene synthase ((2Z,6E)-farnesyl diphosphate cyclizing)(4.2.3.62)
C12Y 402/03063	. . (+)-Cubenene synthase (4.2.3.63)
C12Y 402/03064	. . (+)-Epicubenol synthase (4.2.3.64)
C12Y 402/03065	. . Zingiberene synthase (4.2.3.65)
C12Y 402/03066	. . Beta-selinene cyclase (4.2.3.66)
C12Y 402/03067	. . Cis-muroladiene synthase (4.2.3.67)
C12Y 402/03068	. . Beta-eudesmol synthase (4.2.3.68)
C12Y 402/03069	. . (+)-Alpha-barbatene synthase (4.2.3.69)
C12Y 402/0307	. . Patchoulol synthase (4.2.3.70)
C12Y 402/03071	. . (E,E)-Germacrene B synthase (4.2.3.71)
C12Y 402/03072	. . Alpha-gurjunene synthase (4.2.3.72)
C12Y 402/03073	. . Valencene synthase (4.2.3.73)
C12Y 402/03074	. . Presilhiperfolanol synthase (4.2.3.74)
C12Y 402/03075	. . (-)-Germacrene D synthase (4.2.3.75)
C12Y 402/03076	. . (+)-Delta-selinene synthase (4.2.3.76)
C12Y 402/03077	. . (+)-Germacrene D synthase (4.2.3.77)
C12Y 402/03078	. . Beta-chamigrene synthase (4.2.3.78)
C12Y 402/03079	. . Thujopsene synthase (4.2.3.79)
C12Y 402/0308	. . Alpha-longipinene synthase (4.2.3.80)
C12Y 402/03081	. . Exo-alpha-bergamotene synthase (4.2.3.81)
C12Y 402/03082	. . Alpha-santalene synthase (4.2.3.82)
C12Y 402/03083	. . Beta-santalene synthase (4.2.3.83)
C12Y 402/03084	. . 10-Epi-gamma-eudesmol synthase (4.2.3.84)
C12Y 402/03085	. . Alpha-eudesmol synthase (4.2.3.85)
C12Y 402/03086	. . 7-Epi-alpha-selinene synthase (4.2.3.86)
C12Y 402/03087	. . Alpha-guaiene synthase (4.2.3.87)
C12Y 402/03088	. . Viridiflorene synthase (4.2.3.88)
C12Y 402/03089	. . (+)-Beta-caryophyllene synthase (4.2.3.89)
C12Y 402/0309	. . 5-Epi-alpha-selinene synthase (4.2.3.90)
C12Y 402/03091	. . Cubebol synthase (4.2.3.91)
C12Y 402/03092	. . (+)-Gamma-cadinene synthase (4.2.3.92)

C12Y 402/03093	. .	Delta-guaiene synthase (4.2.3.93)
C12Y 402/03094	. .	Gamma-curcumene synthase (4.2.3.94)
C12Y 402/03095	. .	(-)-Alpha-cuprenene synthase (4.2.3.95)
C12Y 402/03096	. .	Avermitilol synthase (4.2.3.96)
C12Y 402/03097	. .	(-)-Delta-cadinene synthase (4.2.3.97)
C12Y 402/03098	. .	(+)-T-Muurolol synthase (4.2.3.98)
C12Y 402/03099	. .	Labdatriene synthase (4.2.3.99)
C12Y 402/031	. .	Bicyclogermacrene synthase (4.2.3.100)
C12Y 402/03101	. .	7-Epi-sesquithujene synthase (4.2.3.101)
C12Y 402/03102	. .	Sesquithujene synthase (4.2.3.102)
C12Y 402/03103	. .	Ent-isokaurene synthase (4.2.3.103)
C12Y 402/03104	. .	Alpha-humulene synthase (4.2.3.104)
C12Y 402/03105	. .	Tricyclene synthase (4.2.3.105)
C12Y 402/03106	. .	(E)-Beta-ocimene synthase (4.2.3.106)
C12Y 402/03107	. .	(+)-Car-3-ene synthase (4.2.3.107)
C12Y 402/03108	. .	1,8-Cineole synthase (4.2.3.108)
C12Y 402/03109	. .	(-)-Sabinene synthase (4.2.3.109)
C12Y 402/0311	. .	(+)-Sabinene synthase (4.2.3.110)
C12Y 402/03111	. .	(-)-Alpha-terpineol synthase (4.2.3.111)
C12Y 402/03112	. .	(+)-Alpha-terpineol synthase (4.2.3.112)
C12Y 402/03113	. .	Terpinolene synthase (4.2.3.113)
C12Y 402/03114	. .	Gamma-terpinene synthase (4.2.3.114)
C12Y 402/03115	. .	Alpha-terpinene synthase (4.2.3.115)
C12Y 402/03116	. .	(+)-Camphene synthase (4.2.3.116)
C12Y 402/03117	. .	(-)-Camphene synthase (4.2.3.117)
C12Y 402/03118	. .	2-Methylisoborneol synthase (4.2.3.118)
C12Y 402/03119	. .	(-)-Alpha-pinene synthase (4.2.3.119)
C12Y 402/0312	. .	(-)-Beta-pinene synthase (4.2.3.120)
C12Y 402/03121	. .	(+)-Alpha-pinene synthase (4.2.3.121)
C12Y 402/03122	. .	Beta-pinene synthase (4.2.3.122)
C12Y 402/03123	. .	Beta-sesquiphellandrene synthase (4.2.3.123)
C12Y 402/03124	. .	2-Deoxy-scylo-inosose synthase (4.2.3.124)
C12Y 402/03125	. .	Alpha-muurolene synthase (4.2.3.125)
C12Y 402/03126	. .	Gamma-muurolene synthase (4.2.3.126)
C12Y 402/03127	. .	Beta-copaene synthase (4.2.3.127)
C12Y 402/03128	. .	Beta-cubebene synthase (4.2.3.128)
C12Y 402/03129	. .	(+)-Sativene synthase (4.2.3.129)
C12Y 402/0313	. .	Tetraprenyl-beta-curcumene synthase (4.2.3.130)
C12Y 402/03131	. .	Miltiradiene synthase (4.2.3.131)
C12Y 402/03132	. .	Neoabietadiene synthase (4.2.3.132)



- C12Y 402/03133 . . Alpha-copaene synthase (4.2.3.133)
- C12Y 402/03134 . . 5-Phosphonooxy-L-lysine phospho-lyase (4.2.3.134)
- C12Y 402/03135 . . DELTA6-protoilludene synthase (4.2.3.135)
- C12Y 402/03136 . . Alpha-isocomene synthase (4.2.3.136)
- C12Y 402/03137 . . (E)-2-Epi-beta-caryophyllene synthase (4.2.3.137)
- C12Y 402/03138 . . (+)-Epi-alpha-bisabolol synthase (4.2.3.138)
- C12Y 402/03139 . . Valerena-4,7(11)-diene synthase (4.2.3.139)
- C12Y 402/0314 . . Cis-abienol synthase (4.2.3.140)
- C12Y 402/99 . Other carbon-oxygen lyases (4.2.99)
- C12Y 402/99006 . . Chondroitin sulfate lyase (4.2.99.6) ([C12Y 402/02005](#), [C12Y 402/0202](#), [C12Y 402/02021](#) take precedence)
- C12Y 402/99012 . . Carboxymethyloxysuccinate lyase (4.2.99.12)
- C12Y 402/99018 . . DNA-(apurinic or apyrimidinic site)lyase (4.2.99.18)
- C12Y 402/9902 . . 2-Succinyl-6-hydroxy-2,4-cyclohexadiene-1-carboxylate synthase (4.2.99.20)
- C12Y 402/99021 . . Isochorismate lyase (4.2.99.21)

**C12Y 403/00****Carbon-nitrogen lyases (4.3)**

- C12Y 403/01 . Ammonia-lyases (4.3.1)
- C12Y 403/01001 . . Aspartate ammonia-lyase (4.3.1.1), i.e. aspartase
- C12Y 403/01002 . . Methylaspartate ammonia-lyase (4.3.1.2)
- C12Y 403/01003 . . Histidine ammonia-lyase (4.3.1.3)
- C12Y 403/01004 . . Formimidoyltetrahydrofolate cyclodeaminase (4.3.1.4)
- C12Y 403/01005 . . Phenylalanine ammonia-lyase (4.3.1.5) ([C12Y 403/01023](#) - [C12Y 403/01025](#) takes precedence)
- C12Y 403/01006 . . Beta-alanyl-CoA ammonia-lyase (4.3.1.6)
- C12Y 403/01007 . . Ethanolamine ammonia-lyase (4.3.1.7)
- C12Y 403/01009 . . Glucosamine ammonia-lyase (4.3.1.9)
- C12Y 403/0101 . . Serine-sulfate ammonia-lyase (4.3.1.10)
- C12Y 403/01012 . . Ornithine cyclodeaminase (4.3.1.12)
- C12Y 403/01013 . . Carbamoyl-serine ammonia-lyase (4.3.1.13)
- C12Y 403/01014 . . 3-Aminobutyryl-CoA ammonia-lyase (4.3.1.14)
- C12Y 403/01015 . . Diaminopropionate ammonia-lyase (4.3.1.15)
- C12Y 403/01016 . . Threo-3-hydroxy-L-aspartate ammonia-lyase (4.3.1.16)
- C12Y 403/01017 . . L-Serine ammonia-lyase (4.3.1.17)
- C12Y 403/01018 . . D-Serine ammonia-lyase (4.3.1.18)
- C12Y 403/01019 . . Threonine ammonia-lyase (4.3.1.19)
- C12Y 403/0102 . . Erythro-3-hydroxy-L-aspartate ammonia-lyase (4.3.1.20)
- C12Y 403/01022 . . 3,4-Dihydroxyphenylalanine reductive deaminase (4.3.1.22)
- C12Y 403/01023 . . Tyrosine ammonia-lyase (4.3.1.23)
- C12Y 403/01024 . . Phenylalanine ammonia-lyase (4.3.1.24)
- C12Y 403/01025 . . Phenylalanine-tyrosine ammonia-lyase (4.3.1.25)

C12Y 403/01026	. . Chromopyrrolate synthase (4.3.1.26)
C12Y 403/01027	. . Threo-3-hydroxy-D-aspartate ammonia-lyase (4.3.1.27)
C12Y 403/01028	. . L-Lysine cyclodeaminase (4.3.1.28)
C12Y 403/02	. Amidine-lyases (4.3.2)
C12Y 403/02001	. . Argininosuccinate lyase (4.3.2.1)
C12Y 403/02002	. . Adenylosuccinate lyase (4.3.2.2)
C12Y 403/02003	. . Ureidoglycolate lyase (4.3.2.3)
C12Y 403/02004	. . Purine imidazole-ring cyclase (4.3.2.4)
C12Y 403/02005	. . Peptidylamidoglycolate lyase (4.3.2.5)
C12Y 403/02006	. . Gamma-L-glutamyl-butyrosin B gamma-glutamyl cyclotransferase (4.3.2.6)
C12Y 403/03	. Amine-lyases (4.3.3)
C12Y 403/03001	. . 3-Ketovalidoxylamine C-N-lyase (4.3.3.1)
C12Y 403/03002	. . Strictosidine synthase (4.3.3.2)
C12Y 403/03003	. . Deacetylisopecoside synthase (4.3.3.3)
C12Y 403/03004	. . Deacetylpecoside synthase (4.3.3.4)
C12Y 403/03005	. . 4'-Demethylrebeccamycin synthase (4.3.3.5)
C12Y 403/03006	. . Pyridoxal 5'-phosphate synthase (glutamine hydrolyzing)(4.3.3.6)
C12Y 403/03007	. . 4-Hydroxy-tetrahydrodipicolinate synthase (4.3.3.7)
C12Y 403/99	. Other carbon-nitrogen lyases (4.3.99)
C12Y 403/99002	. . Carboxybiotin decarboxylase (4.3.99.2)
C12Y 403/99003	. . 7-Carboxy-7-deazaguanine synthase (4.3.99.3)

**C12Y 404/00****Carbon-sulfur lyases (4.4)**

C12Y 404/01	. Carbon-sulfur lyases (4.4.1)
C12Y 404/01001	. . Cystathionine gamma-lyase (4.4.1.1)
C12Y 404/01002	. . Homocysteine desulfhydrase (4.4.1.2)
C12Y 404/01003	. . Dimethylpropiothetin dethiomethylase (4.4.1.3)
C12Y 404/01004	. . Alliin lyase (4.4.1.4)
C12Y 404/01005	. . Lactoylglutathione lyase (4.4.1.5)
C12Y 404/01006	. . S-Alkylcysteine lyase (4.4.1.6)
C12Y 404/01008	. . Cystathionine beta-lyase (4.4.1.8)
C12Y 404/01009	. . L-3-Cyanoalanine synthase (4.4.1.9)
C12Y 404/0101	. . Cysteine lyase (4.4.1.10)
C12Y 404/01011	. . Methionine gamma-lyase (4.4.1.11)
C12Y 404/01013	. . Cysteine-S-conjugate beta-lyase (4.4.1.13)
C12Y 404/01014	. . 1-Aminocyclopropane-1-carboxylate synthase (4.4.1.14)
C12Y 404/01015	. . D-Cysteine desulfhydrase (4.4.1.15)
C12Y 404/01016	. . Selenocysteine lyase (4.4.1.16)
C12Y 404/01017	. . Holocytochrome-c synthase (4.4.1.17)
C12Y 404/01019	. . Phosphosulfolactate synthase (4.4.1.19)

- C12Y 404/0102 . . Leukotriene-C4 synthase (4.4.1.20)
- C12Y 404/01021 . . S-Ribosylhomocysteine lyase (4.4.1.21)
- C12Y 404/01022 . . S-(Hydroxymethyl)glutathione synthase (4.4.1.22)
- C12Y 404/01023 . . 2-Hydroxypropyl-CoM lyase (4.4.1.23)
- C12Y 404/01024 . . (2R)-Sulfolactate sulfo-lyase (4.4.1.24)
- C12Y 404/01025 . . L-Cysteate sulfo-lyase (4.4.1.25)
- C12Y 404/01026 . . Olivetolic acid cyclase (4.4.1.26)

**C12Y 405/00****Carbon-halide lyases (4.5)**

- C12Y 405/01 . Carbon-halide lyases (4.5.1)
  - C12Y 405/01001 . . DDT-dehydrochlorinase (4.5.1.1)
  - C12Y 405/01002 . . 3-Chloro-D-alanine dehydrochlorinase (4.5.1.2)
  - C12Y 405/01003 . . Dichloromethane dehalogenase (4.5.1.3)
  - C12Y 405/01004 . . L-2-Amino-4-chloropent-4-enoate dehydrochlorinase (4.5.1.4)
  - C12Y 405/01005 . . S-Carboxymethylcysteine synthase (4.5.1.5)

**C12Y 406/00****Phosphorus-oxygen lyases (4.6)**

- C12Y 406/01 . Phosphorus-oxygen lyases (4.6.1)
  - C12Y 406/01001 . . Aodenylate cyclase (4.6.1.1)
  - C12Y 406/01002 . . Guanylate cyclase (4.6.1.2)
  - C12Y 406/01006 . . Cytidylate cyclase (4.6.1.6)
  - C12Y 406/01012 . . 2-C-Methyl-D-erythritol 2,4-cyclodiphosphate synthase (4.6.1.12)
  - C12Y 406/01013 . . Phosphatidylinositol diacylglycerol-lyase (4.6.1.13)
  - C12Y 406/01014 . . Glycosylphosphatidylinositol diacylglycerol-lyase (4.6.1.14)
  - C12Y 406/01015 . . FAD-AMP lyase (cyclizing) (4.6.1.15)

**C12Y 499/00****Other lyases (4.99)**

- C12Y 499/01 . Other lyases (4.99.1)
  - C12Y 499/01001 . . Ferrochelataase (4.99.1.1)
  - C12Y 499/01002 . . Alkylmercury lyase (4.99.1.2)
  - C12Y 499/01003 . . Sirohydrochlorin cobaltochelataase (4.99.1.3)
  - C12Y 499/01004 . . Sirohydrochlorin ferrochelataase (4.99.1.4)
  - C12Y 499/01005 . . Aliphatic aldoxime dehydrataase (4.99.1.5)
  - C12Y 499/01006 . . Indoleacetaldoxime dehydrataase (4.99.1.6)
  - C12Y 499/01007 . . Phenylacetaldoxime dehydrataase (4.99.1.7)
  - C12Y 499/01008 . . Heme ligase (4.99.1.8)

**C12Y 501/00****Racemases and epimerases (5.1)**

- C12Y 501/01 . acting on amino acids and derivatives (5.1.1)
  - C12Y 501/01001 . . Alanine racemase (5.1.1.1)
  - C12Y 501/01002 . . Methionine racemase (5.1.1.2)

C12Y 501/01003	. . Glutamate racemase (5.1.1.3)
C12Y 501/01004	. . Proline racemase (5.1.1.4)
C12Y 501/01005	. . Lysine racemase (5.1.1.5)
C12Y 501/01006	. . Threonine racemase (5.1.1.6)
C12Y 501/01007	. . Diaminopimelate epimerase (5.1.1.7)
C12Y 501/01008	. . 4-Hydroxyproline epimerase (5.1.1.8)
C12Y 501/01009	. . Arginine racemase (5.1.1.9)
C12Y 501/0101	. . Amino-acid racemase (5.1.1.10)
C12Y 501/01011	. . Phenylalanine racemase (ATP-hydrolyzing) (5.1.1.11)
C12Y 501/01012	. . Ornithine racemase (5.1.1.12)
C12Y 501/01013	. . Aspartate racemase (5.1.1.13)
C12Y 501/01014	. . Nocardicin-A epimerase (5.1.1.14)
C12Y 501/01015	. . 2-Aminohexano-6-lactam racemase (5.1.1.15)
C12Y 501/01016	. . Protein-serine epimerase (5.1.1.16)
C12Y 501/01017	. . Isopenicillin-N epimerase (5.1.1.17)
C12Y 501/01018	. . Serine racemase (5.1.1.18)
C12Y 501/02	. acting on hydroxy acids and derivatives (5.1.2)
C12Y 501/02001	. . Lactate racemase (5.1.2.1)
C12Y 501/02002	. . Mandelate racemase (5.1.2.2)
C12Y 501/02003	. . 3-Hydroxybutyryl-CoA epimerase (5.1.2.3)
C12Y 501/02004	. . Acetoin racemase (5.1.2.4)
C12Y 501/02005	. . Tartrate epimerase (5.1.2.5)
C12Y 501/02006	. . Isocitrate epimerase (5.1.2.6)
C12Y 501/03	. acting on carbohydrates and derivatives (5.1.3)
C12Y 501/03001	. . Ribulose-phosphate 3-epimerase (5.1.3.1)
C12Y 501/03002	. . UDP-glucose 4-epimerase (5.1.3.2), i.e. UDP-galactose 4-epimerase
C12Y 501/03003	. . Aldose 1-epimerase (5.1.3.3)
C12Y 501/03004	. . L-Ribulose-5-phosphate 4-epimerase (5.1.3.4)
C12Y 501/03005	. . UDP-arabinose 4-epimerase (5.1.3.5)
C12Y 501/03006	. . UDP-glucuronate 4-epimerase (5.1.3.6)
C12Y 501/03007	. . UDP-N-acetylglucosamine 4-epimerase (5.1.3.7)
C12Y 501/03008	. . N-Acylglucosamine 2-epimerase (5.1.3.8)
C12Y 501/03009	. . N-Acylglucosamine-6-phosphate 2-epimerase (5.1.3.9)
C12Y 501/0301	. . CDP-paratose 2-epimerase (5.1.3.10)
C12Y 501/03011	. . Cellobiose epimerase (5.1.3.11)
C12Y 501/03012	. . UDP-glucuronate 5'-epimerase (5.1.3.12)
C12Y 501/03013	. . dTDP-4-dehydrorhamnose 3,5-epimerase (5.1.3.13)
C12Y 501/03014	. . UDP-N-acetylglucosamine 2-epimerase (non-hydrolysing) (5.1.3.14)
C12Y 501/03015	. . Glucose-6-phosphate 1-epimerase (5.1.3.15)
C12Y 501/03016	. . UDP-glucosamine 4-epimerase (5.1.3.16)

- C12Y 501/03017 . . Heparosan-N-sulfate-glucuronate 5-epimerase (5.1.3.17)
- C12Y 501/03018 . . GDP-mannose 3,5-epimerase (5.1.3.18)
- C12Y 501/03019 . . Chondroitin-glucuronate 5-epimerase (5.1.3.19)
- C12Y 501/0302 . . ADP-glyceromanno-heptose 6-epimerase (5.1.3.20)
- C12Y 501/03021 . . Maltose epimerase (5.1.3.21)
- C12Y 501/03022 . . L-Ribulose-5-phosphate 3-epimerase (5.1.3.22)
- C12Y 501/03023 . . UDP-2,3-diacetamido-2,3-dideoxyglucuronic acid 2-epimerase (5.1.3.23)
- C12Y 501/03024 . . N-Acetylneuraminate epimerase (5.1.3.24)
- C12Y 501/03025 . . dTDP-L-rhamnose 4-epimerase (5.1.3.25)
- C12Y 501/99 . . acting on other compounds (5.1.99)
- C12Y 501/99001 . . Methylmalonyl-CoA epimerase (5.1.99.1)
- C12Y 501/99002 . . 16-Hydroxysteroid epimerase (5.1.99.2)
- C12Y 501/99003 . . Allantoin racemase (5.1.99.3)
- C12Y 501/99004 . . Alpha-methylacyl-CoA racemase (5.1.99.4)
- C12Y 501/99005 . . Hydantoin racemase (5.1.99.5)
- C12Y 501/99006 . . NAD(P)H-hydrate epimerase (5.1.99.6)

**C12Y 502/00****Cis-trans-isomerases (5.2)**

- C12Y 502/01 . . Cis-trans-Isomerases (5.2.1)
- C12Y 502/01001 . . Maleate isomerase (5.2.1.1)
- C12Y 502/01002 . . Maleylacetoacetate isomerase (5.2.1.2)
- C12Y 502/01003 . . Retinal isomerase (5.2.1.3) ([C12Y 101/013](#), [C12Y 101/01315](#), [C12Y 203/01135](#), [C12Y 301/01064](#) take precedence)
- C12Y 502/01004 . . Maleylpyruvate isomerase (5.2.1.4)
- C12Y 502/01005 . . Linoleate isomerase (5.2.1.5)
- C12Y 502/01006 . . Furfurylpyruvate isomerase (5.2.1.6)
- C12Y 502/01008 . . Peptidylprolyl isomerase (5.2.1.8), i.e. cyclophilin
- C12Y 502/01009 . . Farnesol 2-isomerase (5.2.1.9)
- C12Y 502/0101 . . 2-Chloro-4-carboxymethylenebut-2-en-1,4-olide isomerase (5.2.1.10)
- C12Y 502/01012 . . Zeta-carotene isomerase (5.2.1.12)
- C12Y 502/01013 . . Prolycopene isomerase (5.2.1.13)
- C12Y 502/01014 . . Beta-carotene isomerase (5.2.1.14)

**C12Y 503/00****Intramolecular oxidoreductases (5.3)**

- C12Y 503/01 . . interconverting aldoses and ketoses (5.3.1)
- C12Y 503/01001 . . Triose-phosphate isomerase (5.3.1.1)
- C12Y 503/01003 . . Arabinose isomerase (5.3.1.3)
- C12Y 503/01004 . . L-Arabinose isomerase (5.3.1.4)
- C12Y 503/01005 . . Xylose isomerase (5.3.1.5)
- C12Y 503/01006 . . Ribose-5-phosphate isomerase (5.3.1.6)
- C12Y 503/01007 . . Mannose isomerase (5.3.1.7)

C12Y 503/01008	. . Mannose-6-phosphate isomerase (5.3.1.8)
C12Y 503/01009	. . Glucose-6-phosphate isomerase (5.3.1.9)
C12Y 503/01012	. . Glucuronate isomerase (5.3.1.12)
C12Y 503/01013	. . Arabinose-5-phosphate isomerase (5.3.1.13)
C12Y 503/01014	. . L-Rhamnose isomerase (5.3.1.14)
C12Y 503/01015	. . D-Lyxose ketol-isomerase (5.3.1.15)
C12Y 503/01016	. . 1-(5-Phosphoribosyl)-5-((5-phosphoribosylamino)methylideneamino) imidazole-4-carboxamid (5.3.1.16)
C12Y 503/01017	. . 5-Dehydro-4-deoxy-D-glucuronate isomerase (5.3.1.17)
C12Y 503/01018	. . Glucose isomerase (5.3.1.18)
C12Y 503/0102	. . Ribose isomerase (5.3.1.20)
C12Y 503/01021	. . Corticosteroid side-chain-isomerase (5.3.1.21)
C12Y 503/01022	. . Hydroxypyruvate isomerase (5.3.1.22)
C12Y 503/01023	. . S-methyl-5-thioribose-1-phosphate isomerase (5.3.1.23), i.e. 5-methylthioribose-1-phosphate isomerase
C12Y 503/01024	. . Phosphoribosylanthranilate isomerase (5.3.1.24)
C12Y 503/01025	. . L-Fucose isomerase (5.3.1.25)
C12Y 503/01026	. . Galactose-6-phosphate isomerase (5.3.1.26)
C12Y 503/01027	. . 6-Phospho-3-hexuloisomerase (5.3.1.27)
C12Y 503/01028	. . D-Sedoheptulose 7-phosphate isomerase (5.3.1.28)
C12Y 503/02	. interconverting keto- and enol-groups (5.3.2)
C12Y 503/02001	. . Phenylpyruvate tautomerase (5.3.2.1)
C12Y 503/02002	. . Oxaloacetate tautomerase (5.3.2.2)
C12Y 503/02003	. . TDP-4-oxo-6-deoxy-alpha-D-glucose-3,4-oxoisomerase (dTDP-3-dehydro-6-deoxy-alpha-D-galactopyranose-forming) (5.3.2.3)
C12Y 503/02004	. . TDP-4-oxo-6-deoxy-alpha-D-glucose-3,4-oxoisomerase (dTDP-3-dehydro-6-deoxy-alpha-D-glucopyranose-forming) (5.3.2.4)
C12Y 503/02005	. . 2,3-Diketo-5-methylthiopentyl-1-phosphate enolase (5.3.2.5)
C12Y 503/02006	. . 2-Hydroxymuconate tautomerase (5.3.2.6)
C12Y 503/03	. transposing C=C bonds (5.3.3)
C12Y 503/03001	. . Steroid DELTA-isomerase (5.3.3.1)
C12Y 503/03002	. . Isopentenyl-diphosphate DELTA-isomerase (5.3.3.2)
C12Y 503/03003	. . Vinylacetyl-CoA DELTA-isomerase (5.3.3.3)
C12Y 503/03004	. . Muconolactone DELTA-isomerase (5.3.3.4)
C12Y 503/03005	. . Cholestenol DELTA-isomerase (5.3.3.5)
C12Y 503/03006	. . Methylitaconate DELTA-isomerase (5.3.3.6)
C12Y 503/03007	. . Aconitate DELTA-isomerase (5.3.3.7)
C12Y 503/03008	. . Dodecenoyl-CoA isomerase (5.3.3.8)
C12Y 503/03009	. . Prostaglandin-A1 DELTA-isomerase (5.3.3.9)
C12Y 503/0301	. . 5-Carboxymethyl-2-hydroxymuconate DELTA-isomerase (5.3.3.10)
C12Y 503/03011	. . Isopiperitenone DELTA-isomerase (5.3.3.11)



C12Y 503/03012	. . L-Dopachrome isomerase (5.3.3.12)
C12Y 503/03013	. . Polyenoic fatty acid isomerase (5.3.3.13)
C12Y 503/03014	. . Trans-2-decenoyl-[acyl-carrier-protein] isomerase (5.3.3.14)
C12Y 503/03015	. . Ascopyrone tautomerase (5.3.3.15)
C12Y 503/03016	. . 4-Oxalomesaconate tautomerase (5.3.3.16)
C12Y 503/03017	. . Trans-2,3-dihydro-3-hydroxyanthranilate isomerase (5.3.3.17)
C12Y 503/03018	. . 2-(1,2-Epoxy-1,2-dihydrophenyl)acetyl-CoA isomerase (5.3.3.18)
C12Y 503/04	. transposing S-S bonds (5.3.4)
C12Y 503/04001	. . Protein disulfide-isomerase (5.3.4.1), i.e. disulfide bond-forming enzyme
C12Y 503/99	. Other intramolecular oxidoreductases (5.3.99)
C12Y 503/99002	. . Prostaglandin-D synthase (5.3.99.2)
C12Y 503/99003	. . Prostaglandin-E synthase (5.3.99.3)
C12Y 503/99004	. . Prostaglandin-I synthase (5.3.99.4)
C12Y 503/99005	. . Thromboxane-A synthase (5.3.99.5)
C12Y 503/99006	. . Allene-oxide cyclase (5.3.99.6)
C12Y 503/99007	. . Styrene-oxide isomerase (5.3.99.7)
C12Y 503/99008	. . Capsanthin/capsorubin synthase (5.3.99.8)
C12Y 503/99009	. . Neoxanthin synthase (5.3.99.9)
C12Y 503/9901	. . Thiazole tautomerase (5.3.99.10)

**C12Y 504/00****Intramolecular transferases (5.4)**

C12Y 504/01	. transferring acyl groups (5.4.1)
C12Y 504/01001	. . Lysolecithin acylmutase (5.4.1.1)
C12Y 504/01002	. . Precorrin-8X methylmutase (5.4.1.2)
C12Y 504/02	. Phosphotransferases (phosphomutases) (5.4.2)
C12Y 504/02001	. . Phosphoglycerate mutase (5.4.2.1)
C12Y 504/02002	. . Phosphoglucomutase (5.4.2.2)
C12Y 504/02003	. . Phosphoacetylglucosamine mutase (5.4.2.3)
C12Y 504/02004	. . Bisphosphoglycerate mutase (5.4.2.4)
C12Y 504/02005	. . Phosphoglucomutase (glucose-cofactor) (5.4.2.5)
C12Y 504/02006	. . Beta-phosphoglucomutase (5.4.2.6)
C12Y 504/02007	. . Phosphopentomutase (5.4.2.7)
C12Y 504/02008	. . Phosphomannomutase (5.4.2.8)
C12Y 504/02009	. . Phosphoenolpyruvate mutase (5.4.2.9)
C12Y 504/0201	. . Phosphoglucosamine mutase (5.4.2.10)
C12Y 504/03	. transferring amino groups (5.4.3)
C12Y 504/03002	. . Lysine 2,3-aminomutase (5.4.3.2)
C12Y 504/03003	. . Beta-lysine 5,6-aminomutase (5.4.3.3)
C12Y 504/03004	. . D-Lysine 5,6-aminomutase (5.4.3.4)
C12Y 504/03005	. . D-Ornithine 4,5-aminomutase (5.4.3.5)

C12Y 504/03006	. . Tyrosine 2,3-aminomutase (5.4.3.6)
C12Y 504/03007	. . Leucine 2,3-aminomutase (5.4.3.7)
C12Y 504/03008	. . Glutamate-1-semialdehyde 2,1-aminomutase (5.4.3.8)
C12Y 504/03009	. . Glutamate 2,3-aminomutase (5.4.3.9)
C12Y 504/04	. transferring hydroxy groups (5.4.4)
C12Y 504/04001	. . (Hydroxyamino)benzene mutase (5.4.4.1)
C12Y 504/04002	. . Isochorismate synthase (5.4.4.2)
C12Y 504/04003	. . 3-(Hydroxyamino)phenol mutase (5.4.4.3)
C12Y 504/04004	. . Geraniol isomerase (5.4.4.4)
C12Y 504/04005	. . 9,12-Octadecadienoate 8-hydroperoxide 8R-isomerase (5.4.4.5)
C12Y 504/04006	. . 9,12-Octadecadienoate 8-hydroperoxide 8S-isomerase (5.4.4.6)
C12Y 504/99	. transferring other groups (5.4.99)
C12Y 504/99001	. . Methylaspartate mutase (5.4.99.1)
C12Y 504/99002	. . Methylmalonyl-CoA mutase (5.4.99.2)
C12Y 504/99003	. . 2-Acetolactate mutase (5.4.99.3)
C12Y 504/99004	. . 2-Methyleneglutarate mutase (5.4.99.4)
C12Y 504/99005	. . Chorismate mutase (5.4.99.5)
C12Y 504/99007	. . Lanosterol synthase (5.4.99.7), i.e. oxidosqualene-lanosterol cyclase
C12Y 504/99008	. . Cycloartenol synthase (5.4.99.8)
C12Y 504/99009	. . UDP-galactopyranose mutase (5.4.99.9)
C12Y 504/99011	. . Isomaltulose synthase (5.4.99.11)
C12Y 504/99012	. . tRNA pseudouridine38-40 synthase (5.4.99.12)
C12Y 504/99013	. . Isobutyryl-CoA mutase (5.4.99.13)
C12Y 504/99014	. . 4-Carboxymethyl-4-methylbutenolide mutase (5.4.99.14)
C12Y 504/99015	. . (1->4)-Alpha-D-glucan 1-alpha-D-glucosylmutase (5.4.99.15)
C12Y 504/99016	. . Maltose alpha-D-glucosyltransferase (5.4.99.16)
C12Y 504/99017	. . Squalene--hopene cyclase (5.4.99.17)
C12Y 504/99018	. . 5-(Carboxyamino)imidazole ribonucleotide mutase (5.4.99.18)
C12Y 504/99019	. . 16S rRNA pseudouridine516 synthase (5.4.99.19)
C12Y 504/9902	. . 23S rRNA pseudouridine2457 synthase (5.4.99.20)
C12Y 504/99021	. . 23S rRNA pseudouridine2604 synthase (5.4.99.21)
C12Y 504/99022	. . 23S rRNA pseudouridine2605 synthase (5.4.99.22)
C12Y 504/99023	. . 23S rRNA pseudouridine1911/1915/1917 synthase (5.4.99.23)
C12Y 504/99024	. . 23S rRNA pseudouridine955/2504/2580 synthase (5.4.99.24)
C12Y 504/99025	. . tRNA pseudouridine55 synthase (5.4.99.25)
C12Y 504/99026	. . tRNA pseudouridine65 synthase (5.4.99.26)
C12Y 504/99027	. . tRNA pseudouridine13 synthase (5.4.99.27)
C12Y 504/99028	. . tRNA pseudouridine32 synthase (5.4.99.28)
C12Y 504/99029	. . 23S rRNA pseudouridine746 synthase (5.4.99.29)
C12Y 504/9903	. . UDP-arabinopyranose mutase (5.4.99.30)

C12Y 504/99031	. . Thalianol synthase (5.4.99.31)
C12Y 504/99032	. . Protostadienol synthase (5.4.99.32)
C12Y 504/99033	. . Cucurbitadienol synthase (5.4.99.33)
C12Y 504/99034	. . Germanicol synthase (5.4.99.34)
C12Y 504/99035	. . Taraxerol synthase (5.4.99.35)
C12Y 504/99036	. . Isomultiflorenol synthase (5.4.99.36)
C12Y 504/99037	. . Dammaradiene synthase (5.4.99.37)
C12Y 504/99038	. . Camelliol C synthase (5.4.99.38)
C12Y 504/99039	. . Beta-amyrin synthase (5.4.99.39)
C12Y 504/9904	. . Alpha-amyrin synthase (5.4.99.40)
C12Y 504/99041	. . Lupeol synthase (5.4.99.41)
C12Y 504/99042	. . tRNA pseudouridine31 synthase (5.4.99.42)
C12Y 504/99043	. . 21S rRNA pseudouridine2819 synthase (5.4.99.43)
C12Y 504/99044	. . Mitochondrial tRNA pseudouridine27/28 synthase (5.4.99.44)
C12Y 504/99045	. . tRNA pseudouridine38/39 synthase (5.4.99.45)
C12Y 504/99046	. . Shionone synthase (5.4.99.46)
C12Y 504/99047	. . Parkeol synthase (5.4.99.47)
C12Y 504/99048	. . Achilleol B synthase (5.4.99.48)
C12Y 504/99049	. . Glutinol synthase (5.4.99.49)
C12Y 504/9905	. . Friedelin synthase (5.4.99.50)
C12Y 504/99051	. . Baccharis oxide synthase (5.4.99.51)
C12Y 504/99052	. . Alpha-seco-amyrin synthase (5.4.99.52)
C12Y 504/99053	. . Marneral synthase (5.4.99.53)
C12Y 504/99054	. . Beta-seco-amyrin synthase (5.4.99.54)
C12Y 504/99055	. . Delta amyrin synthase (5.4.99.55)
C12Y 504/99056	. . Tirucalladienol synthase (5.4.99.56)
C12Y 504/99057	. . Baruol synthase (5.4.99.57)
C12Y 504/99058	. . Methylornithine synthase (5.4.99.58)

**C12Y 505/00****Intramolecular lyases (5.5)**

C12Y 505/01	. Intramolecular lyases (5.5.1)
C12Y 505/01001	. . Muconate cycloisomerase (5.5.1.1)
C12Y 505/01002	. . 3-Carboxy-cis,cis-muconate cycloisomerase (5.5.1.2)
C12Y 505/01003	. . Tetrahydroxypteridine cycloisomerase (5.5.1.3)
C12Y 505/01004	. . Inositol-3-phosphate synthase (5.5.1.4)
C12Y 505/01005	. . Carboxy-cis,cis-muconate cyclase (5.5.1.5)
C12Y 505/01006	. . Chalcone isomerase (5.5.1.6)
C12Y 505/01007	. . Chloromuconate cycloisomerase (5.5.1.7)
C12Y 505/01008	. . Bornyl diphosphate synthase (5.5.1.8)
C12Y 505/01009	. . Cycloeucalenol cycloisomerase (5.5.1.9)

- C12Y 505/0101 . . Alpha-pinene-oxide decyclase (5.5.1.10)
- C12Y 505/01011 . . Dichloromuconate cycloisomerase (5.5.1.11)
- C12Y 505/01012 . . Copalyl diphosphate synthase (5.5.1.12)
- C12Y 505/01013 . . Ent-copalyl diphosphate synthase (5.5.1.13)
- C12Y 505/01014 . . Syn-copalyl-diphosphate synthase (5.5.1.14)
- C12Y 505/01015 . . Terpentedieryl-diphosphate synthase (5.5.1.15)
- C12Y 505/01016 . . Halimadienyl-diphosphate synthase (5.5.1.16)
- C12Y 505/01017 . . (S)-Beta-macrocarpene synthase (5.5.1.17)
- C12Y 505/01018 . . Lycopene epsilon-cyclase (5.5.1.18)
- C12Y 505/01019 . . Lycopene beta-cyclase (5.5.1.19)
- C12Y 505/0102 . . Prosolanapyrone-III cycloisomerase (5.5.1.20)
- C12Y 505/01022 . . (-)-Bornyl diphosphate synthase (5.5.1.22)

**C12Y 599/00****Other isomerases (5.99)**

- C12Y 599/01 . . Other isomerases (5.99.1)
- C12Y 599/01001 . . Thiocyanate isomerase (5.99.1.1)
- C12Y 599/01002 . . DNA topoisomerase (5.99.1.2)
- C12Y 599/01003 . . DNA topoisomerase (ATP-hydrolysing) (5.99.1.3)
- C12Y 599/01004 . . 2-Hydroxychromene-2-carboxylate isomerase (5.99.1.4)

**C12Y 600/00****Ligases (6.)****C12Y 601/00****Ligases forming carbon-oxygen bonds (6.1)**

- C12Y 601/01 . . Ligases forming aminoacyl-tRNA and related compounds (6.1.1)
- C12Y 601/01001 . . Tyrosine-tRNA ligase (6.1.1.1)
- C12Y 601/01002 . . Tryptophan-tRNA ligase (6.1.1.2)
- C12Y 601/01003 . . Threonine-tRNA ligase (6.1.1.3)
- C12Y 601/01004 . . Leucine--tRNA ligase (6.1.1.4)
- C12Y 601/01005 . . Isoleucine-tRNA ligase (6.1.1.5)
- C12Y 601/01006 . . Lysine-tRNA ligase (6.1.1.6)
- C12Y 601/01007 . . Alanine--tRNA ligase (6.1.1.7)
- C12Y 601/01009 . . Valine--tRNA ligase (6.1.1.9)
- C12Y 601/0101 . . Methionine-tRNA ligase (6.1.1.10)
- C12Y 601/01011 . . Serine--tRNA ligase (6.1.1.11)
- C12Y 601/01012 . . Aspartate-tRNA ligase (6.1.1.12)
- C12Y 601/01013 . . D-Alanine--poly(phosphoribitol) ligase (6.1.1.13)
- C12Y 601/01014 . . Glycine-tRNA ligase (6.1.1.14)
- C12Y 601/01015 . . Proline--tRNA ligase (6.1.1.15)
- C12Y 601/01016 . . Cysteine-tRNA ligase (6.1.1.16)
- C12Y 601/01017 . . Glutamate-tRNA ligase (6.1.1.17)
- C12Y 601/01018 . . Glutamine--tRNA ligase (6.1.1.18)

C12Y 601/01019	. . Arginine--tRNA ligase (6.1.1.19)
C12Y 601/0102	. . Phenylalanine-tRNA ligase (6.1.1.20)
C12Y 601/01021	. . Histidine-tRNA ligase (6.1.1.21)
C12Y 601/01022	. . Asparagine-tRNA ligase (6.1.1.22)
C12Y 601/01023	. . Aspartate--tRNA(Asn) ligase (6.1.1.23)
C12Y 601/01024	. . Glutamate--tRNA(Gln) ligase (6.1.1.24)
C12Y 601/01026	. . Pyrrolysine-tRNA <sup>Pyl</sup> ligase (6.1.1.26)
C12Y 601/01027	. . O-Phosphoserine--tRNA ligase (6.1.1.27)
C12Y 601/02	. Acid--alcohol ligases (ester synthases)(6.1.2)
C12Y 601/02001	. . D-Alanine--(R)-lactate ligase (6.1.2.1)

**C12Y 602/00****Ligases forming carbon-sulfur bonds (6.2)**

C12Y 602/01	. Acid-Thiol Ligases (6.2.1)
C12Y 602/01001	. . Acetate-CoA ligase (6.2.1.1)
C12Y 602/01002	. . Butyrate-CoA ligase (6.2.1.2)
C12Y 602/01003	. . Long-chain-fatty-acid-CoA ligase (6.2.1.3)
C12Y 602/01004	. . Succinate-CoA ligase (GDP-forming) (6.2.1.4)
C12Y 602/01005	. . Succinate-CoA ligase (ADP-forming) (6.2.1.5)
C12Y 602/01006	. . Glutarate--CoA ligase (6.2.1.6)
C12Y 602/01007	. . Cholate--CoA ligase (6.2.1.7)
C12Y 602/01008	. . Oxalate--CoA ligase (6.2.1.8)
C12Y 602/01009	. . Malate--CoA ligase (6.2.1.9)
C12Y 602/0101	. . Acid--CoA ligase (GDP-forming) (6.2.1.10)
C12Y 602/01011	. . Biotin--CoA ligase (6.2.1.11)
C12Y 602/01012	. . 4-Coumarate-CoA ligase (6.2.1.12)
C12Y 602/01013	. . Acetate--CoA ligase (ADP-forming) (6.2.1.13)
C12Y 602/01014	. . 6-Carboxyhexanoate--CoA ligase (6.2.1.14)
C12Y 602/01015	. . Arachidonate--CoA ligase (6.2.1.15)
C12Y 602/01016	. . Acetoacetate-CoA ligase (6.2.1.16)
C12Y 602/01017	. . Propionate--CoA ligase (6.2.1.17)
C12Y 602/01018	. . Citrate--CoA ligase (6.2.1.18)
C12Y 602/01019	. . Long-chain-fatty-acid--luciferin-component ligase (6.2.1.19)
C12Y 602/0102	. . Long-chain-fatty-acid--[acyl-carrier-protein] ligase (6.2.1.20)
C12Y 602/01022	. . [Citrate (pro-3S)-lyase] ligase (6.2.1.22)
C12Y 602/01023	. . Dicarboxylate--CoA ligase (6.2.1.23)
C12Y 602/01024	. . Phytanate--CoA ligase (6.2.1.24)
C12Y 602/01025	. . Benzoate--CoA ligase (6.2.1.25)
C12Y 602/01026	. . O-Succinylbenzoate-CoA ligase (6.2.1.26)
C12Y 602/01027	. . 4-Hydroxybenzoate--CoA ligase (6.2.1.27)
C12Y 602/01028	. . 3-Alpha,7-alpha-dihydroxy-5-beta-cholestanate--CoA ligase (6.2.1.28)

- C12Y 602/0103 . . Phenylacetate--CoA ligase (6.2.1.30)
- C12Y 602/01031 . . 2-Furoate--CoA ligase (6.2.1.31)
- C12Y 602/01032 . . Anthranilate--CoA ligase (6.2.1.32)
- C12Y 602/01033 . . 4-Chlorobenzoate--CoA ligase (6.2.1.33)
- C12Y 602/01034 . . Trans-feruloyl-CoA synthase (6.2.1.34)
- C12Y 602/01035 . . ACP-SH:acetate ligase (6.2.1.35)
- C12Y 602/01036 . . 3-Hydroxypropionyl-CoA synthase (6.2.1.36)
- C12Y 602/01037 . . 3-Hydroxybenzoate--CoA ligase (6.2.1.37)
- C12Y 602/01038 . . (2,2,3-Trimethyl-5-oxocyclopent-3-enyl)acetyl-CoA synthase (6.2.1.38)
- C12Y 602/01039 . . [Butirosin acyl-carrier protein]—L-glutamate ligase (6.2.1.39)

**C12Y 603/00****Ligases forming carbon-nitrogen bonds (6.3)**

- C12Y 603/01 . . Acid-ammonia (or amine)ligases (amide synthases)(6.3.1)
- C12Y 603/01001 . . Aspartate--ammonia ligase (6.3.1.1)
- C12Y 603/01002 . . Glutamate-ammonia ligase (6.3.1.2)
- C12Y 603/01004 . . Aspartate--ammonia ligase (ADP-forming) (6.3.1.4)
- C12Y 603/01005 . . NAD<sup>+</sup> synthase (6.3.1.5)
- C12Y 603/01006 . . Glutamate--ethylamine ligase (6.3.1.6)
- C12Y 603/01007 . . 4-Methyleneglutamate--ammonia ligase (6.3.1.7)
- C12Y 603/01008 . . Glutathionylspermidine synthase (6.3.1.8)
- C12Y 603/01009 . . Trypanothione synthase (6.3.1.9)
- C12Y 603/0101 . . Adenosylcobinamide-phosphate synthase (6.3.1.10)
- C12Y 603/01011 . . Glutamate--putrescine ligase (6.3.1.11)
- C12Y 603/01012 . . D-Aspartate ligase (6.3.1.12)
- C12Y 603/01013 . . L-Cysteine:1D-myo-inositol 2-amino-2-deoxy-alpha-D-glucopyranoside ligase (6.3.1.13)
- C12Y 603/01014 . . Diphthine--ammonia ligase (6.3.1.14)
- C12Y 603/02 . . Acid—amino-acid ligases (peptide synthases)(6.3.2)
- C12Y 603/02001 . . Pantoate-beta-alanine ligase (6.3.2.1)
- C12Y 603/02002 . . Glutamate-cysteine ligase (6.3.2.2)
- C12Y 603/02003 . . Glutathione synthase (6.3.2.3)
- C12Y 603/02004 . . D-Alanine-D-alanine ligase (6.3.2.4)
- C12Y 603/02005 . . Phosphopantothenate--cysteine ligase (6.3.2.5)
- C12Y 603/02006 . . Phosphoribosylaminoimidazolesuccinocarboxamide synthase (6.3.2.6)
- C12Y 603/02007 . . UDP-N-acetylmuramoyl-L-alanyl-D-glutamate--L-lysine ligase (6.3.2.7)
- C12Y 603/02008 . . UDP-N-acetylmuramate-L-alanine ligase (6.3.2.8)
- C12Y 603/02009 . . UDP-N-acetylmuramoyl-L-alanine-D-glutamate ligase (6.3.2.9)
- C12Y 603/0201 . . UDP-N-acetylmuramoyl-tripeptide-D-alanyl-D-alanine ligase (6.3.2.10)
- C12Y 603/02011 . . Carnosine synthase (6.3.2.11)
- C12Y 603/02012 . . Dihydrofolate synthase (6.3.2.12)



C12Y 603/02013	. . UDP-N-acetylmuramoyl-L-alanyl-D-glutamate-2,6-diaminopimelate ligase (6.3.2.13)
C12Y 603/02014	. . 2,3-Dihydroxybenzoate--serine ligase (6.3.2.14)
C12Y 603/02016	. . D-Alanine--alanyl-poly(glycerolphosphate) ligase (6.3.2.16)
C12Y 603/02017	. . Tetrahydrofolate synthase (6.3.2.17)
C12Y 603/02018	. . Gamma-glutamylhistamine synthase (6.3.2.18)
C12Y 603/02019	. . Ubiquitin-protein ligase (6.3.2.19), i.e. ubiquitin-conjugating enzyme
C12Y 603/0202	. . Indoleacetate--lysine synthetase (6.3.2.20)
C12Y 603/02021	. . Ubiquitin--calmodulin ligase (6.3.2.21)
C12Y 603/02023	. . Homoglutathione synthase (6.3.2.23)
C12Y 603/02024	. . Tyrosine--arginine ligase (6.3.2.24)
C12Y 603/02025	. . Tubulin-tyrosine ligase (6.3.2.25)
C12Y 603/02026	. . N-(5-Amino-5-carboxypentanoyl)-L-cysteinyl-D-valine synthase (6.3.2.26)
C12Y 603/02028	. . L-Amino-acid alpha-ligase (6.3.2.28)
C12Y 603/02029	. . Cyanophycin synthase (L-aspartate-adding) (6.3.2.29)
C12Y 603/0203	. . Cyanophycin synthase (L-arginine-adding) (6.3.2.30)
C12Y 603/02031	. . Coenzyme F420-0:L-glutamate ligase (6.3.2.31)
C12Y 603/02032	. . Coenzyme gamma-F420-2:alpha-L-glutamate ligase (6.3.2.32)
C12Y 603/02033	. . Tetrahydrosarcinapterin synthase (6.3.2.33)
C12Y 603/02034	. . Coenzyme F420-1:gamma-L-glutamate ligase (6.3.2.34)
C12Y 603/02035	. . D-Alanine--D-serine ligase (6.3.2.35)
C12Y 603/02036	. . 4-Phosphopantoate--beta-alanine ligase (6.3.2.36)
C12Y 603/02037	. . UDP-N-acetylmuramoyl-L-alanyl-D-glutamate--D-lysine ligase (6.3.2.37)
C12Y 603/02038	. . N2-Citryl-N6-acetyl-N6-hydroxylysine synthase (6.3.2.38)
C12Y 603/02039	. . Aerobactin synthase (6.3.2.39)
C12Y 603/03	. Cyclo-ligases (6.3.3)
C12Y 603/03001	. . Phosphoribosylformylglycinamide cyclo-ligase (6.3.3.1)
C12Y 603/03002	. . 5-Formyltetrahydrofolate cyclo-ligase (6.3.3.2)
C12Y 603/03003	. . Dethiobiotin synthase (6.3.3.3)
C12Y 603/03004	. . (Carboxyethyl)arginine beta-lactam-synthase (6.3.3.4)
C12Y 603/04	. Other carbon-nitrogen ligases (6.3.4)
C12Y 603/04001	. . GMP synthase (6.3.4.1)
C12Y 603/04002	. . CTP synthase (6.3.4.2)
C12Y 603/04003	. . Formate--tetrahydrofolate ligase (6.3.4.3)
C12Y 603/04004	. . Adenylosuccinate synthase (6.3.4.4)
C12Y 603/04005	. . Argininosuccinate synthase (6.3.4.5)
C12Y 603/04006	. . Urea carboxylase (6.3.4.6)
C12Y 603/04007	. . Ribose-5-phosphate--ammonia ligase (6.3.4.7)
C12Y 603/04008	. . Imidazoleacetate--phosphoribosyldiphosphate ligase (6.3.4.8)
C12Y 603/04009	. . Biotin--[methylmalonyl-CoA-carboxytransferase] ligase (6.3.4.9)

C12Y 603/0401	. . Biotin--[propionyl-CoA-carboxylase (ATP-hydrolyzing)] ligase (6.3.4.10)
C12Y 603/04011	. . Biotin--[methylcrotonoyl-CoA-carboxylase] ligase (6.3.4.11)
C12Y 603/04012	. . Glutamate--methylamine ligase (6.3.4.12)
C12Y 603/04013	. . Phosphoribosylamine-glycine ligase (6.3.4.13)
C12Y 603/04014	. . Biotin carboxylase (6.3.4.14)
C12Y 603/04015	. . Biotin-[acetyl-CoA-carboxylase] ligase (6.3.4.15)
C12Y 603/04016	. . Carbamoyl-phosphate synthase (ammonia) (6.3.4.16)
C12Y 603/04017	. . Formate--dihydrofolate ligase (6.3.4.17)
C12Y 603/04018	. . 5-(Carboxyamino)imidazole ribonucleotide synthase (6.3.4.18)
C12Y 603/04019	. . tRNA(Ile)-lysidine synthetase (6.3.4.19)
C12Y 603/0402	. . 7-Cyano-7-deazaguanine synthase (6.3.4.20)
C12Y 603/05	. Carbon-nitrogen ligases with glutamine as amido-N-donor (6.3.5)
C12Y 603/05001	. . NAD <sup>+</sup> synthase (glutamine-hydrolyzing) (6.3.5.1)
C12Y 603/05002	. . GMP synthase (glutamine-hydrolysing) (6.3.5.2), i.e. glutamine amidotransferase
C12Y 603/05003	. . Phosphoribosylformylglycinamide synthase (6.3.5.3)
C12Y 603/05004	. . Asparagine synthase (glutamine-hydrolyzing) (6.3.5.4)
C12Y 603/05005	. . Carbamoyl-phosphate synthase (glutamine-hydrolysing) (6.3.5.5)
C12Y 603/05006	. . Asparaginyl-tRNA synthase (glutamine-hydrolyzing) (6.3.5.6)
C12Y 603/05007	. . Glutaminyl-tRNA synthase (glutamine-hydrolyzing) (6.3.5.7)
C12Y 603/05009	. . Hydrogenobyrinic acid a,c-diamide synthase (glutamine-hydrolyzing) (6.3.5.9)
C12Y 603/0501	. . Adenosylcobyric acid synthase (glutamine-hydrolyzing) (6.3.5.10)
C12Y 603/05011	. . Cobyrrinate a,c-diamide synthase (glutamine-hydrolyzing) (6.3.5.11)

**C12Y 604/00****Ligases forming carbon-carbon bonds (6.4)**

C12Y 604/01	. Ligases forming carbon-carbon bonds (6.4.1)
C12Y 604/01001	. . Pyruvate carboxylase (6.4.1.1)
C12Y 604/01002	. . Acetyl-CoA carboxylase (6.4.1.2)
C12Y 604/01003	. . Propionyl-CoA carboxylase (6.4.1.3)
C12Y 604/01004	. . Methylcrotonoyl-CoA carboxylase (6.4.1.4)
C12Y 604/01005	. . Geranoyl-CoA carboxylase (6.4.1.5)
C12Y 604/01006	. . Acetone carboxylase (6.4.1.6)
C12Y 604/01007	. . 2-Oxoglutarate carboxylase (6.4.1.7)
C12Y 604/01008	. . Acetophenone carboxylase (6.4.1.8)

**C12Y 605/00****Ligases forming phosphoric ester bonds (6.5)**

C12Y 605/01	. forming phosphoric ester bonds (6.5.1)
C12Y 605/01001	. . DNA ligase (ATP) (6.5.1.1)
C12Y 605/01002	. . DNA ligase (NAD <sup>+</sup> ) (6.5.1.2)
C12Y 605/01003	. . RNA ligase (ATP) (6.5.1.3)
C12Y 605/01004	. . RNA-3'-phosphate cyclase (6.5.1.4)

**C12Y 606/00**

**Ligases forming nitrogen-metal bonds (6.6)**

**C12Y 606/01**

- forming coordination complexes (6.6.1)

**C12Y 606/01001**

- · Magnesium chelatase (6.6.1.1)

**C12Y 606/01002**

- · Cobaltochelatase (6.6.1.2)