**G01N** INVESTIGATING OR ANALYSING MATERIALS BY DETERMINING THEIR CHEMICAL OR PHYSICAL PROPERTIES (measuring or testing processes other than immunoassay, involving enzymes or microorganisms **C12M**, **C12Q** (; testing electrographic developer properties **G03G 15/0848**; controlling or regulating non-electric variables **G05D**; measuring degree of ionisation of ionised gases, i.e. plasma **H05H 1/0006**))

**NOTES**

1. In this subclass, the following terms are used with the meanings indicated:
   - "investigating" means testing or determining;
   - "materials" includes solid, liquid or gaseous media, e.g. the atmosphere.
2. Attention is drawn to the Notes following the title of class **G01**.
3. Inventions relating to investigating the properties of materials, specially adapted for use in processes covered by subclass **B23K**, are classified in group **B23K 31/12**.

**WARNING**
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

<table>
<thead>
<tr>
<th>1/00</th>
<th>Sampling; Preparing specimens for investigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001/002</td>
<td>. . [Devices for supplying or distributing samples to an analysing apparatus]</td>
</tr>
<tr>
<td>2001/005</td>
<td>. . [Packages for mailing or similar transprot of samples]</td>
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<tr>
<td>2001/007</td>
<td>. . [Devices specially adapted for forensic samples, e.g. tamper-proofing, sample tracking]</td>
</tr>
<tr>
<td>1/02</td>
<td>. . Devices for withdrawing samples (sampling of foundation soil <strong>E02D 1/04</strong>; collecting or conveying radioactive samples <strong>G01T 7/00</strong>, e.g. <strong>G01T 7/02</strong>, <strong>G01T 7/08</strong>)</td>
</tr>
<tr>
<td>2001/021</td>
<td>. . [Correlating sampling sites with geographical information, e.g. GPS]</td>
</tr>
<tr>
<td>2001/022</td>
<td>. . [sampling for security purposes, e.g. contraband, warfare agents]</td>
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<tr>
<td>2001/024</td>
<td>. . [passengers or luggage]</td>
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<tr>
<td>2001/025</td>
<td>. . [postal items]</td>
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<tr>
<td>2001/027</td>
<td>. . [field kits / quick test kits]</td>
</tr>
<tr>
<td>2001/028</td>
<td>. . [Sampling from a surface, swabbing, vaporising]</td>
</tr>
<tr>
<td>1/04</td>
<td>. . in the solid state, e.g. by cutting</td>
</tr>
<tr>
<td>2001/045</td>
<td>. . [Laser ablation; Microwave vapourisation]</td>
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<tr>
<td>1/06</td>
<td>. . providing a thin slice, e.g. microtome</td>
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<tr>
<td>2001/061</td>
<td>. . [Blade details]</td>
</tr>
<tr>
<td>2001/063</td>
<td>. . . [with sawing action]</td>
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<tr>
<td>2001/065</td>
<td>. . [Drive details]</td>
</tr>
<tr>
<td>2001/066</td>
<td>. . [electric]</td>
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<tr>
<td>2001/068</td>
<td>. . [Illumination means]</td>
</tr>
<tr>
<td>1/08</td>
<td>. . involving an extracting tool, e.g. core bit</td>
</tr>
<tr>
<td>2001/085</td>
<td>. . [Grabs]</td>
</tr>
</tbody>
</table>

| 1/10 | . . in the liquid or fluent state ([burettes, pipettes **B01L 3/02**; sampling of ground water **E02D 1/06**; metering by volume of fluids or fluent solid material **G01F 11/00**, **G01F 13/00**]) |
| 2001/1006 | . . [Dispersed solids] |
| 2001/1012 | . . [Suspensions] |
| 2001/1018 | . . [Gas suspensions; Fluidised beds] |
| 2001/1025 | . . [Liquid suspensions; Slurries; Mud; Sludge] |
| 2001/1031 | . . [Sampling from special places] |
| 2001/1037 | . . [from an enclosure (hazardous waste, radioactive)] |
| 2001/1043 | . . [from sewers] |
| 2001/105 | . . [from high-pressure reactors or lines] |
| 2001/1056 | . . [Disposable (single-use) samplers] |
| 2001/1062 | . . [Sampling under constant temperature, pressure, or the like] |
| 2001/1068 | . . [Cooling sample below melting point] |
| 2001/1075 | . . [Trapping evaporated liquids by cooling] |
| 2001/1081 | . . [Storing samples under refrigeration] |
| 2001/1087 | . . [Categories of sampling] |
| 2001/1093 | . . [Composite sampling; Cumulative sampling] |
| 1/12 | . . [Dippers; Dredgers] |
| 2001/125 | . . [adapted for sampling molten metals] |
| 1/14 | . . [Suction devices, e.g. pumps; Ejector devices] |
| 1/1409 | . . [adapted for sampling molten metals] |
| 2001/1418 | . . [Depression, aspiration] |
| 2001/1427 | . . [Positive displacement, piston, peristaltic] |
| 2001/1436 | . . [Ejector] |
G01N

2001/1445 . . . [Overpressure, pressurisation at sampling point]
2001/1454 . . . {Positive displacement, piston}
2001/1463 . . . [Injector; Air-lift]
2001/1472 . . . [Devices not actuated by pressure difference]
2001/1481 . . . {Archimedian screw; Auger}
1/16 . . . with provision for intake at several levels ((G01N 1/2035) G01N 1/12, G01N 1/14 take precedence)
1/18 . . . with provision for splitting samples into portions (G01N 1/12, G01N 1/14 take precedence; fraction-collection apparatus for chromatography B01D 15/08)
2001/185 . . . [Conveyor of containers successively filled]
1/20 . . . for flowing or falling materials ((G01N 1/2035) G01N 1/12, G01N 1/14 take precedence)
2001/2007 . . . [Flow conveyors]
2001/2014 . . . {Pneumatic conveyors}
2001/2021 . . . [falling under gravity]
2001/2028 . . . [Belts]
1/2035 . . . [by deviating part of a fluid stream, e.g. by drawing-off or tapping]
1/2042 . . . [using a piston actuated by the pressure of the liquid to be sampled]
2001/205 . . . [using a valve]
2001/2057 . . . [Sample chamber in a valve/piston]
2001/2064 . . . [using a by-pass loop]
2001/2071 . . . [Removable sample bottle]
2001/2078 . . . [Pre-evacuated bottle]
2001/2085 . . . [Non-pre-evacuated septum closed bottles]
2001/2092 . . . [Cross-cut sampling]
1/22 . . . in the gaseous state (specially adapted for biological material G01N 33/497; measuring breath flow A61B 5/087)
1/2202 . . . [involving separation of sample components during sampling]
1/2205 . . . [with filters]
1/2208 . . . [with impactors]
1/2211 . . . [with cyclones]
1/2214 . . . [by sorption]
2001/2217 . . . [using a liquid]
2001/222 . . . [Other features]
2001/2223 . . . [aerosol sampling devices]
1/2226 . . . [Sampling from a closed space, e.g. food package, head space]
2001/2229 . . . [Headspace sampling, i.e. vapour over liquid]
2001/2232 . . . [using a membrane, i.e. pervaporation]
2001/2235 . . . [over a melt, e.g. furnace]
2001/2238 . . . [the gas being compressed or pressurized]
2001/2241 . . . [purpose-built sampling enclosure for emissions]
2001/2244 . . . [Exhaled gas, e.g. alcohol detecting]
1/2247 . . . [Sampling from a flowing stream of gas]
2001/225 . . . [isokinetic, same flow rate for sample and bulk gas]
1/2252 . . . [in a vehicle exhaust]
2001/2255 . . . [with dilution of the sample]
1/2258 . . . [in a stack or chimney]
2001/2261 . . . [preventing condensation (heating lines)]
2001/2264 . . . [with dilution]
2001/2267 . . . [separating gas from liquid, e.g. bubbles]
2001/227 . . . [separating gas from solid, e.g. filter]
1/2273 . . . [Atmospheric sampling]
2001/2276 . . . [Personal monitors]
2001/2279 . . . [high altitude, e.g. rockets, balloons]
2001/2282 . . . [with cooling means]
2001/2285 . . . [Details of probe structures]
2001/2288 . . . [Filter arrangements]
2001/2291 . . . [Movable probes, e.g. swelling, swinging]
1/2294 . . . [Sampling soil gases or the like]
2001/2297 . . . [Timing devices]
1/24 . . . Suction devices (G01N 1/22 - G01N 1/2294 take precedence)
2001/241 . . . [Bellows]
2001/242 . . . [Injectors or ejectors]
2001/244 . . . [using critical flow orifices]
2001/245 . . . [Fans]
2001/247 . . . [Syringes]
2001/248 . . . [Evacuated containers]
1/26 . . . with provision for intake from several spaces
1/28 . . . Preparing specimens for investigation (including physical details of bio-chemical methods covered elsewhere, e.g. G01N 33/50, C12Q) (mounting specimens on microscopic slides G02B 21/24; means for supporting the objects or the materials to be analysed in electron microscopes H01J 37/20; laboratory gas handling apparatus B01L 5/00)
1/2806 . . . [Means for preparing replicas of specimens, e.g. for microscopical analysis]
1/2813 . . . [Producing thin layers of samples on a substrate, e.g. smearing, spinning-on (G01N 1/30 takes precedence)]
2001/282 . . . [with mapping; Identification of areas; Spatial correlated pattern]
2001/2826 . . . [Collecting by adsorption or absorption]
2001/2833 . . . [Collecting samples on a sticky, tacky, adhesive surface]
2001/284 . . . [using local activation of adhesive, i.e. Laser Capture Microdissection]
2001/2846 . . . [Cytocentrifuge method]
1/2853 . . . [Shadowing samples]
1/286 . . . [involving mechanical work, e.g. chopping, disintegrating, compacting, homogenising (microtomes G01N 1/06; pulverising in general B02C; mixing in general B01F)]
2001/2866 . . . [Grinding or homogenising]
2001/2873 . . . [Cutting or cleaving]
2001/288 . . . [Filter punches]
2001/2886 . . . [Laser cutting, e.g. tissue catapult]
2001/2893 . . . [Preparing calibration standards]
1/30 . . . Staining; Impregnating (Fixation; Dehydration; Multistep processes for preparing samples of tissue, cell or nucleic acid material and the like for analysis)
2001/302 . . . [Stain compositions]
2001/305 . . . [Fixative compositions]
2001/307 . . . [non-toxic, no Hg, no formaldehyde]
1/31 . . . Apparatus therefor
1/312 . . . [for samples mounted on planar substrates]
2001/315 . . . [Basket-type carriers for tissues]
2001/317 . . . [spraying liquids onto surfaces]
Investigating strength properties of solid materials by application of mechanical stress

**NOTE**
This group covers the stressing of materials not only below but also beyond the elastic limit, e.g. until breaking occurs.

3/00

3/02 . . . Details
3/04 . . . Chucks
3/06 . . . Special adaptations of indicating or recording means
3/062 . . . [with mechanical indicating or recording means]
3/064 . . . [with hydraulic indicating or recording means]
3/066 . . . [with electrical indicating or recording means]
3/068 . . . [with optical indicating or recording means]
3/08 . by applying steady tensile or compressive forces (G01N 3/28 takes precedence)
3/10 . generated by pneumatic or hydraulic pressure (G01N 3/18 takes precedence)
3/12 . Pressure testing
3/14 . generated by dead weight, e.g. pendulum; generated by springs tension (G01N 3/18 takes precedence)
3/16 . applied through gearing (G01N 3/18 takes precedence)
3/165 . [generated by rotation, i.e. centrifugal force (for testing structures or apparatus G01M 99/004)]
3/18 . Performing tests at high or low temperatures
3/20 . by applying steady bending forces (G01N 3/26, G01N 3/28 take precedence)
3/22 . by applying steady torsional forces (G01N 3/26, G01N 3/28 take precedence)
3/24 . by applying steady shearing forces (G01N 3/26, G01N 3/28 take precedence)
3/26 . Investigating twisting or coiling properties
3/28 . Investigating ductility, e.g. suitability of sheet metal for deep-drawing or spinning
3/30 . by applying a single impulsive force, e.g. by falling weight
3/303 . generated only by free-falling weight
3/307 . generated by a compressed or tensile-stressed spring; generated by pneumatic or hydraulic means
3/31 . generated by a rotating fly-wheel
3/313 . generated by explosives
3/317 . generated by electromagnetic means
3/32 . by applying repeated or pulsating forces
3/34 . generated by mechanical means, e.g. hammer blows
3/36 . generated by pneumatic or hydraulic means
3/38 . generated by electromagnetic means
3/40 . Investigating hardness or rebound hardness
3/405 . [by determining the vibration frequency of a sensing element in contact with the specimen]
3/42 . by performing impressions under a steady load by indentors, e.g. sphere, pyramid (G01N 3/54 takes precedence)
3/44 . the indentors being put under a minor load and a subsequent major load, i.e. Rockwell system
3/46 . the indentors performing a scratching movement
3/48 . by performing impressions under impulsive load by indentors, e.g. falling ball (G01N 3/54 takes precedence)
3/50 . by measuring rolling friction, e.g. by rocking pendulum (G01N 3/54 takes precedence)
3/52 . by measuring extent of rebound of a striking body (G01N 3/54 takes precedence)
3/54 . Performing tests at high or low temperatures
3/56 . Investigating resistance to wear or abrasion
3/562 . [using radioactive tracers]
3/565 . [of granular or particulate material]
Materials; Analysing materials by determining density or specific gravity of small particles separated from a gas or liquid (G01N 9/00 takes precedence ; weighing per se G01G)

by absorbing or adsorbing components of a material and determining change of weight of the adsorbent, e.g. determining moisture content (absorption bulbs B01D 53/00)

for determining moisture content

by removing a component, e.g. by evaporation, and weighing the remainder

Analyzing materials by measuring the pressure or volume of a gas or vapour

by absorption, adsorption, or combustion of components and measurement of the change in pressure or volume of the remainder (absorption bulbs B01D 53/00)

by absorption or adsorption alone

by combustion alone

by combustion followed by absorption or adsorption of the combustion products

by allowing diffusion of components through a porous wall and measuring a pressure or volume difference

the diffusion being followed by combustion or catalytic oxidation

by allowing the material to emit a gas or vapour, e.g. water vapour, and measuring a pressure or volume difference (determining urea)

by measuring the density or specific gravity (methods of measurement in general)

by weighing both in air and in a liquid

by observing the depth of immersion of the bodies, e.g. hydrometers

the body being built into a container

the body being pivoted

Special adaptations for indicating, recording, or control

by balancing the weight of the bodies

with continuous circulation of the fluid

by observing the transmission of wave or particle radiation through the material

by measuring pressure differences

by measuring the blowing pressure of gas bubbles escaping from nozzles at different depths in a liquid

by using centrifugal effects

by using flow properties of fluids, e.g. flow through tubes or apertures

by using elements moving through the fluid, e.g. vane

Analyzing materials by measuring the density or specific gravity, e.g. determining quantity of moisture

Investigating flow properties of materials, e.g. viscosity, plasticity; Analysing materials by determining flow properties

[Calibrating, controlling or cleaning viscometers]

[Temperature compensation]

[Controlling sample temperature; Thermal cycling during measurement]

[Investigating specific flow properties of non-Newtonian fluids]

[Yield stress; Residual stress at zero shear rate]

[Stress relaxation time]

[In situ measurement during mixing process]

[Using ergometry; measuring power consumption]

[Determining flow properties indirectly by measuring other parameters of the system]

[Electrical properties]

[Acoustic properties]

[Optical properties]

[Magnetic properties]

[Thermal properties]
11/12 by measuring rising or falling speed of the body; by measuring penetration of wedged gauges (G01N 11/16 takes precedence)

11/14 by using rotary bodies, e.g. vane (G01N 11/16 takes precedence)

11/142 [Sample held between two members substantially perpendicular to axis of rotation, e.g. parallel plate viscometer]

2011/145 [both members rotating]

11/147 [Magnetic coupling]

11/16 by measuring damping effect upon oscillatory body

11/162 [Oscillations being torsional, e.g. produced by rotating bodies]

11/165 [Sample held between two members substantially perpendicular to axis of rotation, e.g. parallel plate viscometer]

11/167 [Sample holder oscillates, e.g. rotating crucible]

13/00 Investigating surface or boundary effects, e.g. wetting power; Investigating diffusion effects; Analysing materials by determining surface, boundary, or diffusion effects (scanning-probe techniques or apparatus G01Q)

2003/003 [Diffusion; diffusivity between liquids]

2003/006 [Dissolution of tablets or the like]

13/02 Investigating surface tension of liquids

2003/0208 [by measuring contact angle]

2003/0216 [by measuring skin friction or shear force]

2003/0225 [of liquid metals or solder]

2003/0233 [Langmuir troughs; thin-film balances]

2003/0241 [bubble, pendant drop, sessile drop methods]

2003/025 [Measuring foam stability]

2003/0258 [Oscillating drop methods]

2003/0266 [Bubble methods]

2003/0275 [involving surface-active agents]

2003/0283 [methods of calculating surface tension]

2003/0291 [Wilhelmy plate]

13/04 Investigating osmotic effects

15/00 Investigating characteristics of particles; Investigating permeability, pore-volume, or surface-area of porous materials (identification of microorganisms C12Q)

2005/0003 [Determining electric mobility, velocity profile, average speed or velocity of a plurality of particles]

2005/0007 [Investigating dispersion of gas]

2005/0011 [in liquids, e.g. bubbles]

2005/0015 [in solids]

2005/0019 [Means for transferring or separating particles prior to analysis, e.g. hoppers or particle conveyors]

2005/0023 [Investigating dispersion of liquids]

2005/0026 [in gas, e.g. fog]

2005/003 [in liquids, e.g. emulsion]

2005/0034 [in solids]

2005/0038 [Investigating nanoparticles]

2005/0042 [Investigating dispersion of solids]

2005/0046 [in gas, e.g. smoke]

2005/0049 [of filaments in gas]

2005/0053 [in liquids, e.g. trouble]

2005/0057 [of filaments in liquids]

2005/0061 [in solids, e.g. petrography]

2005/0065 [biological, e.g. blood]

2005/0069 [with lysing, e.g. of erythrocyts]

2005/0073 [Red blood cells]

2005/0076 [Reticulocytes]

2005/008 [White cells]

2005/0084 [Platelets]

2005/0088 [Biological contaminants; Fouling]

2005/0092 [Monitoring flocculation or agglomeration]

2005/0096 [Investigating consistency of powders, dustability, dustiness]

15/02 Investigating particle size or size distribution (G01N 15/04; G01N 15/10 take precedence; by measuring osmotic pressure G01N 7/10)

15/0205 [by optical means, e.g. by light scattering, diffraction, holography or imaging]

15/0211 [Investigating a scatter or diffraction pattern]

2005/0216 [from fluctuations of diffraction pattern]

2005/0222 [from dynamic light scattering, e.g. photon correlation spectroscopy]

15/0227 [using imaging, e.g. a projected image of suspension; using holography]

2005/0233 [using holography]

2005/0238 [Single particle scatter]

2005/0244 [with cutting-out molecular scatter]

2005/025 [Methods for single or grouped particles]

15/0255 [with mechanical, e.g. inertial, classification, and investigation of sorted collections (with centrifuges G01N 15/042)]

2005/0261 [using impactors]

15/0266 [with electrical classification]

15/0272 [with screening; with classification by filtering (B01D takes precedence)]

2005/0277 [Average size only]

2005/0283 [using control of suspension concentration]

2005/0288 [Sorting the particles]

2005/0294 [Particle shape]

2005/03 [Electro-optical investigation of a plurality of particles, the analyser being characterised by the optical arrangement]

2005/035 [the optical arrangement forming an integrated apparatus with the sample container]

15/04 Investigating sedimentation of particle suspensions

15/042 [by centrifuging and investigating centrifugates (centrifuges per se B04B)]

2005/045 [by optical analysis]

2005/047 [by static multidetectors]

15/05 in blood

2005/055 [for hematocrite determination]

15/06 Investigating concentration of particle suspensions (G01N 15/04; G01N 15/10 take precedence; by weighing G01N 5/00)

NOTE

References listed below indicate CPC places which could also be of interest when carrying out a search in respect of the subject matter covered by the preceding group and its subgroups:

- Investigating or analysing materials;
- by the use of optical means: G01N 21/00, e.g. G01N 21/47, G01N 21/90;
- by other radiations or by particles: G01N 23/00, e.g. G01N 23/02, G01N 23/201;
- by measuring impedance: G01N 27/02, e.g. G01N 27/06, G01N 27/22;
Investigating individual particles

15/0606 . . . (by collecting particles on a support)
15/0612 . . . [Optical scan of the deposits (G01N 15/0625 takes precedence)]
15/0618 . . . [of the filter type (G01N 15/0643 takes precedence)]
15/0625 . . . [Optical scan of the deposits]
15/0631 . . . [Separation of liquids, e.g. by absorption, wicking]
15/0637 . . . [Moving support]
15/0643 . . . [of the filter type]
15/065 . . . [using condensation nuclei counters]
15/0656 . . . [using electric, e.g. electrostatic methods or magnetic methods (by investigating individual particles G01N 15/1031, G01N 15/1012)]
2015/0662 . . . [Comparing before/after passage through filter]
2015/0668 . . . [Comparing properties of sample and carrier fluid, e.g. oil in water]
2015/0675 . . . [Comparing intrusion, e.g. of mercury]
2015/0681 . . . [Purposely modifying particles, e.g. humidifying for growing]
2015/0687 . . . [in solutions, e.g. non volatile residue]
2015/0693 . . . [by optical means, e.g. by integrated nephelometry]
15/08 . . . Investigating permeability, pore-volume, or surface area of porous materials
15/0806 . . . [Details, e.g. sample holders, mounting samples for testing]
2015/0813 . . . [Measuring intrusion, e.g. of mercury]
15/082 . . . [Investigating permeability by forcing a fluid through a sample]
15/0826 . . . [and measuring fluid flow rate, i.e. permeation rate or pressure change]
2015/0833 . . . [Pore surface area]
2015/084 . . . [Testing filters]
2015/0846 . . . [by use of radiation, e.g. transmitted or reflected light]
2015/0853 . . . [by electrical capacitance measurement]
2015/086 . . . [of films, membranes or pellicles]
2015/0866 . . . [Sorption]
2015/0873 . . . [Dynamic sorption, e.g. with flow control means]
15/088 . . . [Investigating volume, surface area, size or distribution of pores; Porosimetry]
15/0886 . . . [Mercury porosimetry]
15/0893 . . . [by measuring weight or volume of sorbed fluid, e.g. B.E.T. method]
15/10 . . . Investigating individual particles
2015/1006 . . . [for cytology]
15/1012 . . . [Calibrating particle analysers; References therefor]
2015/1018 . . . [Constitution of reference particles]
2015/1025 . . . [Particle flow simulating, e.g. liquid crystal cell]
15/1436 . . . . [the optical arrangement forming an integrated apparatus with the sample container, e.g. a flow cell]

2015/1438 . . . . [Using two lasers in succession]

2015/144 . . . . [Imaging characterised by its optical setup]

2015/1443 . . . . [Auxiliary imaging]

2015/1445 . . . . [Three-dimensional imaging, imaging in different image planes, e.g. under different angles or at different depths, e.g. by a relative motion of sample and detector, for instance by tomography]

2015/1447 . . . . [Spatial selection]

2015/145 . . . . [by pattern of light, e.g. fringe pattern]

2015/1452 . . . . [Adjustment of focus; Alignment]

2015/1454 . . . . [using phase shift or interference, e.g. for improving contrast]

15/1456 . . . . [without spatial resolution of the texture or inner structure of the particle, e.g. processing of pulse signals]

15/1459 . . . . [the analysis being performed on a sample stream]

2015/1461 . . . . [Coincidence detecting; Circuits therefor]

15/1463 . . . . [using image analysis for extracting features of the particle]

NOTE
References listed below indicate CPC places which could also be of interest when carrying out a search in respect of the subject matter covered by the preceding group:
- counting objects disposed at random with size distinction G06M 11/04
- extraction of features from image for pattern recognition G06K 9/46
- specific image analysis method for the recognition of microscopic objects G06K 9/00127
- image enhancement in general G06T 5/00
- image analysis in general G06T 7/00

15/1465 . . . . [image analysis on colour image]

15/1468 . . . . [with spatial resolution of the texture or inner structure of the particle]

NOTE
References listed below indicate CPC places which could also be of interest when carrying out a search in respect of the subject matter covered by the preceding group:
- counting objects disposed at random with size distinction G06M 11/04
- extraction of features from image for pattern recognition G06K 9/46
- specific image analysis method for the recognition of microscopic objects G06K 9/00127
- image enhancement G06T 5/00
- image analysis G06T 7/00

15/147 . . . . [the analysis being performed on a sample stream]

15/1472 . . . . [with colour]

15/1475 . . . . [using image analysis for extracting features of the particle]

15/1477 . . . . [Multiparameters]

15/1479 . . . . [Using diffuse illumination or excitation]

15/1481 . . . . [Optical analysis of particle in droplet]

15/1484 . . . . [microstructural devices]

15/1486 . . . . [Counting the particles]

15/1488 . . . . [Methods for deciding]

15/149 . . . . [Sorting the particles]

15/1493 . . . . [Particle size]

15/1495 . . . . [Deformation of particles]

15/1497 . . . . [Particle shape]

17/00 Investigating resistance of materials to the weather, to corrosion, or to light

17/002 . . . . [Test chambers]

17/004 . . . . [to light]

17/006 . . . . [of metals]

17/008 . . . . [Monitoring fouling]

17/02 . . . . [Electrochemical measuring systems for weathering, corrosion or corrosion-protection measurement]

17/04 . . . . [Corrosion probes]

17/043 . . . . [Coupons]

17/046 . . . . [Means for supporting or introducing coupons]

19/00 Investigating materials by mechanical methods

19/02 . . . . [Measuring coefficient of friction between materials (testing of tyres G01M 17/02; determinations of friction coefficient used in vehicle braking or traction control systems B60T 8/172)]

19/04 . . . . [Measuring adhesive force between materials, e.g. of scaling tape, of coating]

19/06 . . . . [Investigating by removing material, e.g. spark-testing]

19/08 . . . . [Detecting presence of flaws or irregularities]

19/10 . . . . [Measuring moisture content, e.g. by measuring change in length of hygroscopic filament; Hygrometers]

21/00 Investigating or analysing materials by the use of optical means, i.e. using infra-red, visible or ultra-violet light (G01N 3/00; G01N 19/00 take precedence)

NOTE
This group does not cover the investigation of spectral properties of light per se, or measurements of the properties of materials where spectral properties of light are sensed and primary emphasis is placed on creating, detecting or analysing the spectrum providing that the properties of the materials to be investigated are of minor importance. Those subjects are covered by group G01J 3/00.

21/01 . . . . [Arrangements or apparatus for facilitating the optical investigation]

21/0106 . . . . [General arrangement of respective parts]

21/0112 . . . . [Apparatus in one mechanical, optical or electronic block]

21/0118 . . . . [Apparatus with remote processing]

21/0125 . . . . [with stored program or instructions]

21/0131 . . . . [being externally stored]

21/0137 . . . . [with PC or the like]
CPC - 2020.08

G01N

2021/0143 . . . . . . [with internal and external computer]
2021/015 . . . . . . [Apparatus with interchangeable optical heads or interchangeable block of optics and detector]
2021/0156 . . . . . . [with optics only in separate head, e.g. connection by optical fibres]
2021/0162 . . . . . . [using microprocessors for control of a sequence of operations, e.g. test, powering, switching, processing]
2021/0168 . . . . . . [for the measurement cycle]
2021/0175 . . . . . . [for selecting operating means]
2021/0181 . . . . . . [Memory or computer-assisted visual determination]
2021/0187 . . . . . . [Mechanical sequence of operations]
2021/0193 . . . . . . [the sample being taken from a stream or flow to the measurement cell]
21/03 . . . . . . Cuvette constructions
21/0303 . . . . . . [Optical path conditioning in cuvettes, e.g. windows; adapted optical elements or systems; path modifying or adjustment (G01N 21/032 - G01N 21/15 take precedence)]
2021/0307 . . . . . . [Insert part in cell]
21/031 . . . . . . [Multipass arrangements]
2021/0314 . . . . . . [Double pass, autocollimated path]
21/0317 . . . . . . [High pressure cuvettes; (G01N 21/032 - G01N 21/15 take precedence)]
2021/0321 . . . . . . [One time use cells, e.g. integrally moulded]
2021/0325 . . . . . . [Cells for testing reactions, e.g. containing reagents]
2021/0328 . . . . . . [Arrangement of two or more cells having different functions for the measurement of reactions]
21/0332 . . . . . . [with temperature control (control of temperature G05D 23/00; cryostats F17C 3/08)]
2021/0335 . . . . . . [Refrigération of cells; Cold stages]
2021/0339 . . . . . . [Holders for solids, powders]
2021/0342 . . . . . . [Solid sample being immersed, e.g. equiindex fluid]
2021/0346 . . . . . . [Capillary cells; Microcells]
2021/035 . . . . . . [Supports for sample drops]
2021/0353 . . . . . . [Conveyor of successive sample drops]
2021/0357 . . . . . . [Sets of cuvettes]
2021/036 . . . . . . [transformable, modifiable]
2021/0364 . . . . . . [flexible, compressible]
2021/0367 . . . . . . [Supports of cells, e.g. pivotable]
2021/0371 . . . . . . [Supports combined with sample intake]
2021/0375 . . . . . . [Slidable cells]
2021/0378 . . . . . . [Shapes]
2021/0382 . . . . . . [Frustronical, tapered cell]
2021/0385 . . . . . . [Diffusing membrane; Semipermeable membrane]
2021/0389 . . . . . . [Windows]
2021/0392 . . . . . . [Nonplanar windows]
2021/0396 . . . . . . [Oblique incidence]
21/05 . . . . . . Flow-through cuvettes (G01N 21/09 takes precedence; handling fluid samples G01N 1/10)
2021/052 . . . . . . [Tubular type; cavity type; multireflective]
2021/054 . . . . . . [Bubble trap; Debubbling]
2021/056 . . . . . . [Laminated construction]
2021/058 . . . . . . [Flat flow cell]

21/07 . . . . . . Centrifugal type cuvettes (G01N 21/09 takes precedence)
21/09 . . . . . . adapted to resist hostile environments or corrosive or abrasive materials
21/11 . . . . . . Filling or emptying of cuvettes
21/2021/115 . . . . . . [Washing; Purging]
21/13 . . . . . . Moving of cuvettes or solid samples to or from the investigating station (handling materials for automatic analysis G01N 35/00)
21/15 . . . . . . Preventing contamination of the components of the optical system or obstruction of the light path
21/171/151 . . . . . . [Gas blown]
2021/152 . . . . . . [Scraping; Brushing; Moving band]
2021/154 . . . . . . [Ultrasonic cleaning]
2021/155 . . . . . . [Monitoring cleanliness of window, lens, or other parts]
2021/157 . . . . . . [Monitoring by optical means]
2021/158 . . . . . . [Eliminating condensation]
21/172021/1702 . . . . . . [with opto-acoustic detection, e.g. for gases or analysing solids]
2021/1704 . . . . . . [in gases]
2021/1706 . . . . . . [in solids]
2021/1708 . . . . . . [with piezotransducers (probes for investigating or analysing materials by the use of ultrasonic, sonic or infrasonic waves G01N 29/24)]
21/171 . . . . . . [with calorimetric detection, e.g. with thermal lens detection]
2021/1712 . . . . . . [Thermal lens, mirage effect]
2021/1714 . . . . . . [Photothermal radiometry with measurement of emission]
21/1717 . . . . . . [with a modulation of one or more physical properties of the sample during the optical investigation, e.g. electro-reflectance]
2021/1719 . . . . . . [Carrier modulation in semiconductors]
2021/1721 . . . . . . [Electromodulation]
2021/1723 . . . . . . [Fluid modulation]
2021/1725 . . . . . . [Modulation of properties by light, e.g. photoreflectance]
2021/1727 . . . . . . [Magnetomodulation]
2021/1729 . . . . . . [Piezomodulation]
2021/1731 . . . . . . [Temperature modulation]
2021/1734 . . . . . . [Sequential different kinds of measurements; Combining two or more methods]
2021/1736 . . . . . . [with two or more light sources]
2021/1738 . . . . . . [Optionally different kinds of measurements; Method being valid for different kinds of measurement]
2021/174 . . . . . . [either absorption-reflection or emission-fluorescence]
2021/1742 . . . . . . [either absorption or reflection]
2021/1744 . . . . . . [either absorption or scatter]
2021/1746 . . . . . . [Method using tracers]
2021/1748 . . . . . . [Comparative step being essential in the method]
2021/1751 . . . . . . [Constructive features therefore, e.g. using two measurement cells]
different wavelengths or wavelength bands

Effect of material on the light at two or more

takes precedence

Dichroism

Polarisation-affecting properties (G01N 21/19
takes precedence)

Ellipsometry (optical thickness measurement

G01B 11/06)

[and using two light sources]

[and using two apparatus or two probes]

Time modulation of light being essential to the
method of light modification, e.g. using single
detector (circuits for photometry with modulation,
using one detector G01J 1/44)

[Jittering, dithering, optical path modulation]

A physical transformation being implied in the
method, e.g. a phase change

Gas to liquid phase change

Method using an image detector and processing
of image signal

using photographic film

Detector of the video camera type

Array detector

(Line array detector)

Colour camera

[IIT intensified image tube]

Methods for obtaining spatial resolution of the
property being measured

[In-depth resolution]

Three dimensional

Tomographic, i.e. computerised
reconstruction from projective
measurements

(Time resolved)

[stroboscopic; pulse gated; time range gated]

Remote sensing

Atmospheric mapping of gases

[in landscape, e.g. crops]

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Array detector

(Line array detector)

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[In-depth resolution]

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(Time resolved)

[stroboscopic; pulse gated; time range gated]

Remote sensing

Atmospheric mapping of gases

[in landscape, e.g. crops]

Dichroism

Polarisation-affecting properties (G01N 21/19
takes precedence)

Ellipsometry (optical thickness measurement

G01B 11/06)
NOTE

This group also covers devices without instrumental sources, e.g. radiometric-type devices using ambient infra-red light.

[balancing by two filters on two detectors]

[and using one filter cell as attenuator]

[without instrumental source, i.e. radiometric]

[using modulation of pressure or density]

[Hygrometry of gases]

[Disposition for compensating effect of interfering gases]

(by using a third optical path, e.g. interference cuvette)

for determining moisture content

in sheets, e.g. in paper

for analysing solids; Preparation of samples therefor

[applied to semiconductors, e.g. Silicon]

[Preparation of samples, e.g. salt matrices]

for analysing liquids, e.g. polluted water

using far infra-red light; using Terahertz radiation

by Terahertz time domain spectroscopy [THz-TDS]

using near infra-red light

(using FTIR)

using pneumatic detection [(opto-acoustic detection G01N 21/1702)]

using tunable lasers

[Intracavity sample]

[Measuring reradiation, e.g. fluorescence, backscatter]

{and using a spectral variation of the interaction of the laser beam and the sample}

[DIAL method]

(using a topographic target)

>Type of laser source

{Dye laser}

{CO₂ laser}

{Diode laser}

Refraction; Phase-affecting properties, e.g. optical path length (G01N 21/21 takes precedence)

[Athmospheric distortion; Turbulence]

[Atmospheric dispersion]

[Index profiling of optical fibres]

[Index of thin films]

[Refractometers, e.g. differential]

[Correcting temperature effect in refractometers]

[Differential cell arrangements]

[Measuring the deflection of light in refractometers]

[Visualising flow by index measurement]

[Methods effecting a waveguide mode enhancement through the property being measured]

[Phase distribution]

[Frequency/phase diagrams]

[Phase modulation imaging]

[using a PSD]

(by measuring critical angle)

[Dip refractometers, e.g. using optical fibres]

[comprising optical fibres]

{ with an unclad part on the fibre}

[Dipping block in contact with sample, e.g. prism]

[Sensing drops on the contact surface]

[Sensing resonant reflection]

{with investigation of angle]

{with investigation of wavelength]

{using interferometric methods; using Schlieren methods}

{for determining the optical absorption]

{Holographic interferometry

(for dimensional measurements G01B 9/021 - G01B 9/029)]

{Schlieren methods, e.g. for gradient index determination; Shadowgraph)

{Moiré deflectometry]}

{using interferential sensor, e.g. sensor fibre, possibly on optical waveguide]

{Scattering, i.e. diffuse reflection (G01N 21/25, G01N 21/41 take precedence (G01N 21/55 takes precedence)]

{Global scatter; Total scatter, excluding reflections]

{Angular selective]

{Forward scatter; Low angle scatter]

{Backscatter]

{Multiangle measurement]

{Continuous plural angles]

{Using a ring of sensors, or a combination of diaphragm and sensors; Annular sensor]

{using a optical fibre array]

{using a PSD]

{Scanning scatter angles]

{Detecting scatter at 90³]

{Optical definition of scattering volume]

{Compensating for unwanted scatter, e.g. reliefs, marks]

{Discriminating different types of scatterers]

{Solid samples, e.g. paper, glass]

{Diffuse reflection (precedence is given to G01N 21/55 - G01N 21/57 if specular component is taken into consideration), e.g. also for testing fluids, fibrous materials]
21/474 ... {Details of optical heads therefor, e.g. using optical fibres}
2021/4742 ... {comprising optical fibres}
2021/4745 ... {Fused bundle, i.e. for backscatter}
2021/4747 ... {Concentric bundles}
2021/475 ... {Bifurcated bundle}
2021/4752 ... {Geometry}
2021/4754 ... {Diffuse illumination}
2021/4757 ... {Geometry 0/45° or 45/0°}
2021/4759 ... {Annular illumination}
2021/4761 ... {Mirror arrangements, e.g. in IR range}
2021/4764 ... {Special kinds of physical applications}
2021/4766 ... {Sample containing fluorescent brighteners}
2021/4769 ... {Fluid samples, e.g. slurries, granulates; Compressible powdery of fibrous samples}
2021/4771 ... {Matte surfaces with reflecting particles}
2021/4773 ... {Partly or totally translucent samples}
2021/4776 ... {Miscellaneous in diffuse reflection devices}
2021/4778 ... {Correcting variations in front distance}
2021/478 ... {Application in testing analytical test strips}
2021/4783 ... {Examining under varying incidence; Angularly adjustable head}
21/4785 ... {Standardising light scatter apparatus; Standards therefor}
2021/4788 ... {Diffraction (for sizing particles G01N 15/0205)}
2021/479 ... {Speckle}
2021/4792 ... {Polarisation of scatter light}
2021/4795 ... {Spatially resolved investigating of object in scattering medium (in vivo A61B)}
2021/4797 ... {Spatially resolved investigating of object in scattering medium (in vivo A61B)}
21/49 ... within a body or fluid
2021/495 ... {the fluid being adsorbed, e.g. in porous medium}
21/51 ... inside a container, e.g. in an ampoule (G01N 21/53 takes precedence)
2021/513 ... {Cuvettes for scattering measurements}
2021/516 ... {Multiple excitation of scattering medium, e.g. by retro-reflected or multiply reflected excitation rays}
21/53 ... within a flowing fluid, e.g. smoke
21/532 ... {with measurement of scattering and transmission}
21/534 ... {by measuring transmission alone, i.e. determining opacity}
2021/536 ... {Measurement device mounted at stack}
21/538 ... {for determining atmospheric attenuation and visibility}
2021/55 ... Specular reflectivity
2021/551 ... {Retroreflectance}
21/552 ... {Attenuated total reflection}
21/553 ... {and using surface plasmons (fluorescence excitation G01N 21/648; enhanced Raman G01N 21/658)}
21/554 ... {detecting the surface plasmon resonance of nanostructured metals, e.g. localised surface plasmon resonance}
2021/555 ... {Measuring total reflection power, i.e. scattering and specular}
2021/556 ... {Measuring separately scattering and specular}
2021/557 ... {Detecting specular reflective parts on sample}
2021/558 ... {Measuring reflectivity and transmission}
2021/559 ... {Determining variation of specular reflection within diffusively reflecting sample}
21/57 ... Measuring gloss
2021/575 ... {Photogoniometry}
2021/59 ... Transmissivity (G01N 21/25 takes precedence)
2021/5903 ... {[using surface plasmon resonance [SPR], e.g. extraordinary optical transmission [EOT]]}
21/5907 ... {Densitometers}
21/5911 ... {of the scanning type (scanning per se G02B)}
2021/5915 ... {Processing scan data in densitometry}
2021/5919 ... {Determining total density of a zone}
2021/5923 ... {Determining zones of density; quantitating spots}
2021/5926 ... {Isodensitometers}
2021/593 ... {Correcting from the background density}
2021/5934 ... {Averaging on a zone}
2021/5938 ... {Features of monitor, display}
2021/5942 ... {for dot area ratio in printing applications}
2021/5946 ... {for binary signal}
2021/5949 ... {Correcting nonlinearity of signal, e.g. in measurement of photomedium}
2021/5953 ... {for detecting a spatial spectrum}
2021/5957 ... {using an image detector type detector, e.g. CCD}
2021/5961 ... {using arrays of sources and detectors}
2021/5965 ... {using selected detectors in an array}
2021/5969 ... {Scanning of a tube, a cuvette, a volume of sample}
2021/5973 ... {where the cuvette or tube is moved}
2021/5976 ... {Image projected and scanning projected image}
2021/5978 ... {Features of mounting, adjusting}
2021/598 ... {Height adjustable}
2021/5984 ... {Fluid mounting or the like, e.g. vortex}
2021/5992 ... {Double pass}
2021/5996 ... {Positioning the head}
21/61 ... Non-dispersive gas analysers (G01N 21/3504 takes precedence)
21/62 ... Systems in which the material investigated is excited whereby it emits light or causes a change in wavelength of the incident light
2021/625 ... {Excitation by energised particles such as metastable molecules}
21/63 ... optically excited
21/631 ... {using photolysis and investigating photolysed fragments}
2021/632 ... {Predissociation, e.g. for fluorescence of transient excited radicals}
2021/633 ... {Photoinduced grating used for analysis}
2021/634 ... {Photochromic material analysis}
2021/635 ... {Photosynthetic material analysis, e.g. chlorophyll}
21/636 ... {using an arrangement of pump beam and probe beam; using the measurement of optical non-linear properties; (non-linear optics per se G02F 1/35)}
2021/637 ... {Lasing effect used for analysis}
2021/638 ... {Brdillouin effect, e.g. stimulated Brillouin effect}
Fluorescence; Phosphorescence

[Atomic fluorescence; Laser induced fluorescence]

[Atomic fluorescence]

{multi-element}

(with measurement of decay time, time resolved fluorescence)

(Phosphorimetry, gated)

(Distinction short and delayed fluorescence or phosphorescence)

(with two excitations, e.g. strong pump/probe flash)

[Spectrofluorimetric devices]

(Excitation at two or more wavelengths)

(Measuring at two or more wavelengths)

(Spectral mapping, video display)

(Determining Fraunhofer lines)

[Measuring fluorescence of fluorescent products of reactions or of fluorochrome labelled reactive substances, e.g. measuring quenching effects, using measuring "optrodes"](in vivo A61B 5/00; immunoassay G01N 33/53)]

[non-biological material]

[Quenching]

[Optrodes]

(for analysing tapes)

(with indicators, stains, dyes, tags, labels, marks)

(with two or more labels)

(Fluorimetric titration)

(Measuring fluorescence polarisation)

(by visual observation)

[Specially adapted constructive features of fluorimeters]

[Individual samples arranged in a regular 2D-array, e.g. multwell plates]

(using an integrated detector array)

[Spatial resolved fluorescence measurements; Imaging]

[Fluorescence microscopy (fluorescence microscopes per se G02B 21/0076 and G02B 21/16)]

[Detecting fluorescent inhomogeneities at a position, e.g. for detecting defects]

[Optics]

[Angular discrimination]

[Axial flow and illumination]

[Cavity, e.g. ellipsoid]

[Special filters, filter wheel]

[In-line geometry]

[Front end, i.e. backscatter, geometry]

[Special lenses]

[using evanescent coupling or surface plasmon coupling for the excitation of fluorescence]

[Sample cells, cuvettes]

[Optical fibres]

[Measuring fluorescence of biological material, e.g. DNA, RNA, cells (G01N 21/6428 takes precedence)]

[Photoluminescence of semiconductors]

[Measuring fluorescence and transmission; Correcting inner filter effect]

(by alternating fluorescence/transmission or fluorescence/reflection]

[Miscellaneous methods]

[Miscellaneous applications]

[Raman scattering]

(Cuvettes therefore)

[Coherent methods [CARS]]

[Stimulated Raman]

[Raman microprobe]

[enhancement Raman, e.g. surface plasmons]

[electrically excited, e.g. electroluminescence]

(using electric arcs or discharges)

(using high frequency electric fields)

(specially adapted for fluids, e.g. molten metal)

[Sample formation of volatile hydride]

 Sample nebulisers for flame burners or plasma burners (nebulizers per se B05B)]

(by measuring the radiation emitted by a test object treated by combustion gases for investigating the composition of gas mixtures)

[Laser microanalysis, i.e. with formation of sample plasma]

(using flame burners)

(for determination of metalloids, using Beilstein type reaction)

(using plasma burners or torches)

(using flameless atomising, e.g. graphite furnaces)

(Control of temperature, heating, ashing]

(Systems in which material is subjected to a chemical reaction, the progress or the result of the reaction being investigated (systems in which material is burnt in a flame or plasma G01N 21/72, G01N 21/73)]

[Comparing reactive/non reactive substances]

[Devices comprising reaction zones]

[Reagent flow and intermittent injection of sample or vice versa]

[Comparing readings with/without reagents, or before/after reaction]

[using immobilised reagents]

[using reversible reaction]

[Chemiluminescence; Bioluminescence]

[Bioluminescence]

[of gases]

(by observing the effect on a chemical indicator]

[using reagent-clad optical fibres or optical waveguides (using measurement of total internal reflection or attenuated total reflection G01N 21/552; optical fibres or waveguides per se G02B)]

[Reagent provision]

[Distributed reagent, e.g. over length of guide]

[in core]

[in cladding]
21/772 . . . . . . . {Tip coated light guide}
21/7723 . . . . . . . {Swelling part, also for adsorption sensor, i.e. without chemical reaction}
21/7726 . . . . . . . {Porous glass}
21/773 . . . . . . . {Porous polymer jacket; Polymer matrix with indicator}
21/7733 . . . . . . . {Reservoir, liquid reagent}
21/7736 . . . . . . . {Exposed, cladding free}
21/774 . . . . . . . {the reagent being on a grating or periodic structure}
21/7743 . . . . . . . {the reagent-coated grating coupling light in or out of the waveguide}
21/7746 . . . . . . . {the waveguide coupled to a cavity resonator}
21/775 . . . . . . . [Indicator and selective membrane]
21/7753 . . . . . . . {Reagent layer on photoelectrical transducer}
21/7756 . . . . . . . {Sensor type}
21/7759 . . . . . . . {Dipstick, Test strip}
21/7763 . . . . . . . {Sample through flow}
21/7766 . . . . . . . {Capillary fill}
21/7769 . . . . . . . {Measurement method of reaction-produced change in sensor}
21/7773 . . . . . . . {Reflection}
21/7776 . . . . . . . {Index}
21/7779 . . . . . . . {Interferometric}
21/7783 . . . . . . . {Transmission, loss}
21/7786 . . . . . . . {Fluorescence}
21/7789 . . . . . . . {Cavity or resonator}
21/7793 . . . . . . . {Sensor comprising plural indicators}
21/7796 . . . . . . . {Special mountings, packaging of indicators}
21/78 . . . . . . . . producing a change of colour
21/783 . . . . . . . . {for analysing gases}
21/786 . . . . . . . . {with auxiliary heating for reaction}
21/79 . . . . . . . . . Photometric titration
21/80 . . . . . . . . . Indicating pH value
21/81 . . . . . . . . . Indicating humidity
21/82 . . . . . . . . . producing a precipitate or turbidity
21/825 . . . . . . . . {Agglutination}
21/83 . . . . . . . . . Turbidimetric titration
21/84 . . . . . . . . . Systems specially adapted for particular applications
21/8405 . . . . . . . {Application to two-phase or mixed materials, e.g. gas dissolved in liquids}
21/8411 . . . . . . . {Application to online plant, process monitoring}
21/8416 . . . . . . . {and process controlling, not otherwise provided for}
21/8422 . . . . . . . {Investigating thin films, e.g. matrix isolation method}
21/8427 . . . . . . . {Coatings}
21/8433 . . . . . . . {Comparing coated/uncoated parts}
21/8438 . . . . . . . {Multilayers}
21/8444 . . . . . . . {Fibrous material}
21/845 . . . . . . . . . Objects on a conveyor
21/8455 . . . . . . . . {and using position detectors}
21/8461 . . . . . . . {Investigating impurities in semiconductor, e.g. Silicon}
21/8466 . . . . . . . {Investigation of vegetal material, e.g. leaves, plants, fruits}
21/8472 . . . . . . . {Investigation of composite materials}
21/8477 . . . . . . . {Investigating crystals, e.g. liquid crystals}
21/8483 . . . . . . . {Investigating reagent band (test-element handling not specific to a test method}
21/8488 . . . . . . . {the band presenting reference patches}
21/8494 . . . . . . . {Measuring or storing parameters of the band}
21/85 . . . . . . . . . Investigating moving fluids or granular solids
21/8507 . . . . . . . {Probe photometers, i.e. with optical measuring part dipped into fluid sample}
21/8514 . . . . . . . {with immersed mirror}
21/8521 . . . . . . . {with a combination mirror cell-cuvette}
21/8528 . . . . . . . {Immerged light conductor}
21/8535 . . . . . . . {Presenting a cut}
21/8542 . . . . . . . {Presenting an exposed part of the core}
21/855 . . . . . . . . . {Underground probe, e.g. with provision of a penetration tool}
21/8557 . . . . . . . {Special shaping of flow, e.g. using a by-pass line, jet flow, curtain flow}
21/8564 . . . . . . . {Sample as drops}
21/8571 . . . . . . . {Using filtering of sample fluid}
21/8578 . . . . . . . {Gaseous flow (IR analysers G01N 21/8507)}
21/8585 . . . . . . . {Using porous sheets, e.g. for separating aerosols}
21/8592 . . . . . . . {Grain or other flowing solid samples}
21/86 . . . . . . . . . Investigating moving sheets (G01N 21/89 takes precedence)
21/8609 . . . . . . . {Optical head specially adapted}
21/8618 . . . . . . . {With an optically integrating part, e.g. hemisphere}
21/8627 . . . . . . . {With an illuminator over the whole width}
21/8636 . . . . . . . {Detecting arrangement therefore, e.g. collimators, screens}
21/8645 . . . . . . . {Using multidetectors, detector array}
21/8654 . . . . . . . {Mechanical support; Mounting of sheet}
21/8663 . . . . . . . {Paper, e.g. gloss, moisture content (Inspecting the presence of flaws in moving materials, e.g. paper G01N 21/89; measurement of gloss in general; G01N 21/57)}
21/8672 . . . . . . . {Paper formation parameter}
21/8681 . . . . . . . {Paper fibre orientation}
21/8689 . . . . . . . {Plastics or polymeric material, e.g. polymers orientation in plastic, adhesive imprinted band}
21/87 . . . . . . . . . Investigating jewels (G01N 21/88 takes precedence)
21/88 . . . . . . . . . Investigating the presence of flaws or contamination
21/8803 . . . . . . . {Visual inspection (measuring projectors G01B 9/08)}
21/8806 . . . . . . . {Specially adapted optical and illumination features}
21/8809 . . . . . . . {Adjustment for highlighting flaws}
21/8812 . . . . . . . {Diffuse illumination, e.g. "sky"}
21/8816 . . . . . . . {By using multiple sources, e.g. LEDs}
21/8819 . . . . . . . {By using retroreflecting screen}
21/8822 . . . . . . . {Dark field detection}
21/8825 . . . . . . . {Separate detection of dark field and bright field}
21/8829 . . . . . . . {Shadow projection or structured background, e.g. for deflectometry (three-dimensional metrology of surfaces G01B 11/25)}
2021/8914 . . . . . . [characterised by the material examined]
2021/8915 . . . . . . [non-woven textile material]
2021/8916 . . . . . . [for testing photographic material]
2021/8917 . . . . . . [Paper, also ondulated]
2021/8918 . . . . . . [Metal]
21/892 . . . . . . characterised by the flaw, defect or object feature examined
21/8921 . . . . . . [Streaks]
21/8922 . . . . . . [Periodic flaws]
2021/8924 . . . . . . [Dents; Relief flaws]
2021/8925 . . . . . . [Inclusions]
2021/8927 . . . . . . [Defects in a structured web]
2021/8928 . . . . . . [Haze defects, i.e. with a part of diffracted light]
21/894 . . . . . . Pinholes
21/896 . . . . . . Optical defects in or on transparent materials, e.g. distortion, surface flaws (in conveyed flat sheet or rod (for other objects G01N 21/958))
2021/8962 . . . . . . [for detecting separately opaque flaws and refracting flaws]
2021/8965 . . . . . . [using slant illumination, using internally reflected light]
2021/8967 . . . . . . [Discriminating defects on opposite sides or at different depths of sheet or rod]
21/898 . . . . . . Irregularities in textured or patterned surfaces, e.g. textiles, wood
21/8983 . . . . . . [for testing textile webs, i.e. woven material]
21/8986 . . . . . . [Wood]
21/90 . . . . . . in a container or its contents (G01N 21/91 takes precedence)
21/9009 . . . . . . [Non-optical constructional details affecting optical inspection, e.g. cleaning mechanisms for optical parts, vibration reduction]
21/9018 . . . . . . [Dirt detection in containers]
21/9027 . . . . . . [in containers after filling]
21/9036 . . . . . . [using arrays of emitters or receivers]
21/9045 . . . . . . [Inspection of ornamented or stippled container walls]
21/9054 . . . . . . [Inspection of sealing surface and container finish]
2021/9063 . . . . . . [Hot-end container inspection]
21/9072 . . . . . . [with illumination or detection from inside the container]
21/9081 . . . . . . [Inspection especially designed for plastic containers, e.g. preforms]
21/909 . . . . . . [in opaque containers or opaque container parts, e.g. cans, tins, caps, labels]
21/91 . . . . . . using penetration of dyes, e.g. fluorescent ink
21/93 . . . . . . Detection standards; Calibrating [baseline adjustment, drift correction]
2021/933 . . . . . . [Adjusting baseline or gain (also for web inspection)]
2021/936 . . . . . . [Adjusting threshold, e.g. by way of moving average]
21/94 . . . . . . Investigating contamination, e.g. dust (G01N 21/85 takes precedence)
2021/945 . . . . . . [Liquid or solid deposits of macroscopic size on surfaces, e.g. drops, films, or clustered contaminants (dust particles and microscopic contaminants in G01N 21/94)]
G01N

21/95 . . . characterised by the material or shape of the object to be examined (G01N 21/80 - G01N 21/91, G01N 21/94 take precedence)

21/9501 . . . [Semiconductor wafers (manufacturing processes per se of semiconductor devices implementing a measuring step H01L 22/101)]

21/9503 . . . [Wafer edge inspection]

21/9505 . . . [Wafer internal defects, e.g. microcracks]

21/9506 . . . [Optical discs]

21/9508 . . . [Capsules; Tablets]

21/951 . . . [Balls]

2021/9511 . . . [Optical elements other than lenses, e.g. mirrors (testing of optical apparatus in G01M 11/00)]

2021/9513 . . . [Liquid crystal panels]

21/9515 . . . [Objects of complex shape, e.g. examined with use of a surface follower device (measuring contours and curvatures G01B 11/24)]

2021/9516 . . . [whereby geometrical features are being masked]

2021/9518 . . . [using a surface follower, e.g. robot]

21/952 . . . [Inspecting the exterior surface of cylindrical bodies or wires (G01N 21/956 takes precedence)]

21/954 . . . [Inspecting the inner surface of hollow bodies, e.g. bores]

2021/9542 . . . [using a probe]

2021/9544 . . . [with emitter and receiver on the probe]

2021/9546 . . . [with remote light transmitting, e.g. optical fibres]

2021/9548 . . . [Scanning the interior of a cylinder]

21/956 . . . [Inspecting patterns on the surface of objects (contactless testing of electronic circuits G01R 31/308; testing currency G07D (manufacturing processes per se of semiconductor devices implementing a measuring step H01L 22/101)]

21/95607 . . . [using a comparative method]

2021/95615 . . . [with stored comparison signal]

21/95623 . . . [using a spatial filtering method (per se G02B)]

2021/9563 . . . [and suppressing pattern images]

2021/95638 . . . [for PCB’s]

2021/95646 . . . [Soldering]

2021/95653 . . . [Through-holes]

2021/95661 . . . [for leads, e.g. position, curvature]

2021/95669 . . . [for solder coating, coverage]

2021/95676 . . . [Masks, reticles, shadow masks]

21/95684 . . . [Patterns showing highly reflecting parts, e.g. metallic elements]

21/95692 . . . [Patterns showing hole parts, e.g. honeycomb filtering structures]

21/958 . . . [Inspecting transparent materials or objects, e.g. windscreens (for conveyed flat sheet or rod G01N 21/896)]

2021/9583 . . . [Lenses]

2021/9586 . . . [Windscreens]

22/00 Investigating or analysing materials by the use of microwaves (G01N 3/00 - G01N 17/00, G01N 24/00 take precedence)

22/005 . . . [and using Stark effect modulation]

22/02 . . . Investigating the presence of flaws

22/04 . . . Investigating moisture content

23/00 Investigating or analysing materials by the use of wave or particle radiation, e.g. X-rays or neutrons, not covered by groups G01N 3/00 - G01N 17/00, G01N 21/00 or G01N 22/00

23/005 . . . [by using neutrons (G01N 23/02 - G01N 23/227 take precedence)]

23/02 . . . by transmitting the radiation through the material

23/025 . . . [using neutrons]

23/04 . . . [and forming images of the material]

WARNING

Group G01N 23/04 is impacted by reclassification into groups G01N 23/041 and G01N 23/044.
Groups G01N 23/04, G01N 23/041, and G01N 23/044 should be considered in order to perform a complete search.

23/041 . . . [Phase-contrast imaging, e.g. using grating interferometers]

WARNING

Group G01N 23/041 is incomplete pending reclassification of documents from groups G01N 23/04 and G01N 23/043.
Groups G01N 23/04, G01N 23/043, and G01N 23/041 should be considered in order to perform a complete search.

23/043 . . . [using fluoroscopic examination, with visual observation or video transmission of fluoroscopic images]

WARNING

Group G01N 23/043 is impacted by reclassification into groups G01N 23/041 and G01N 23/044.
Groups G01N 23/043, G01N 23/041, and G01N 23/044 should be considered in order to perform a complete search.

23/044 . . . [using laminography or tomosynthesis]

WARNING

Group G01N 23/044 is incomplete pending reclassification of documents from groups G01N 23/04 and G01N 23/043.
Groups G01N 23/043, G01N 23/04, and G01N 23/044 should be considered in order to perform a complete search.

23/046 . . . [using tomography, e.g. computed tomography [CT]]

23/05 . . . [using neutrons]

23/06 . . . [and measuring the absorption]

WARNING

Group G01N 23/06 is impacted by reclassification into group G01N 23/083.
All groups listed in this Warning should be considered in order to perform a complete search.
23/083 . . . the radiation being X-rays

**WARNING**

Group G01N 23/083 is incomplete pending reclassification of documents from groups G01N 23/06 and G01N 23/10 – G01N 23/185. All groups listed in this Warning should be considered in order to perform a complete search.

23/085 . . . . X-ray absorption fine structure [XAFS], e.g. extended XAFS [EXAFS]

23/087 . . . using polyeenergetic X-rays

23/09 . . . the radiation being neutrons

**WARNING**

Group G01N 23/09 is impacted by reclassification into groups G01N 23/10, G01N 23/12, G01N 23/125, G01N 23/16, and G01N 23/18. All groups listed in this Warning should be considered in order to perform a complete search.

23/095 . . . Gamma-ray resonance absorption, e.g. using the Mössbauer effect

23/10 . . . the material being confined in a container, e.g. in a luggage X-ray scanners

**WARNING**

Group G01N 23/10 is incomplete pending reclassification of documents from group G01N 23/09. Group G01N 23/10 is also impacted by reclassification into group G01N 23/083. Groups G01N 23/09, G01N 23/10, and G01N 23/083 should be considered in order to perform a complete search.

23/12 . . . the material being a flowing fluid or a flowing granular solid

**WARNING**

Group G01N 23/12 is incomplete pending reclassification of documents from group G01N 23/09. Group G01N 23/12 is also impacted by reclassification into group G01N 23/083. Groups G01N 23/09, G01N 23/12, and G01N 23/083 should be considered in order to perform a complete search.

23/125 . . . . {with immersed detecting head}

**WARNING**

Group G01N 23/125 is incomplete pending reclassification of documents from group G01N 23/09. Group G01N 23/125 is also impacted by reclassification into group G01N 23/083. Groups G01N 23/09, G01N 23/125, and G01N 23/083 should be considered in order to perform a complete search.

23/16 . . . the material being a moving sheet or film

**WARNING**

Group G01N 23/16 is incomplete pending reclassification of documents from groups G01N 23/09, G01N 23/18, and G01N 23/185. Group G01N 23/16 is also impacted by reclassification into group G01N 23/083. All groups listed in this Warning should be considered in order to perform a complete search.

23/18 . . . Investigating the presence of flaws defects or foreign matter

**WARNING**

Group G01N 23/18 is incomplete pending reclassification of documents from group G01N 23/09. Group G01N 23/18 is also impacted by reclassification into groups G01N 23/083, and G01N 23/16. Groups G01N 23/09, G01N 23/18, and G01N 23/16 should be considered in order to perform a complete search.

23/185 . . . . {in tyres}

**WARNING**

Group G01N 23/185 is impacted by reclassification into groups G01N 23/083, and G01N 23/16. All groups listed in this Warning should be considered in order to perform a complete search.

23/20 . . . by using diffraction of the radiation by the materials, e.g. for investigating crystal structure; by using scattering of the radiation by the materials, e.g. for investigating non-crystalline materials; by using reflection of the radiation by the materials

23/20008 . . . Constructional details of analysers, e.g. characterised by X-ray source, detector or optical system; Accessories therefor; Preparing specimens therefor (monochromators for X-rays using crystals G21K 1/06)

23/20016 . . . Goniometers

23/20025 . . . Sample holders or supports therefor

23/20033 . . . . provided with temperature control or heating means

23/20041 . . . . for high pressure testing, e.g. anvil cells

23/2005 . . . Preparation of powder samples therefor

23/20058 . . . Measuring diffraction of electrons, e.g. low energy electron diffraction [LEED] method or reflection high energy electron diffraction [RHEED] method

23/20066 . . . Measuring inelastic scatter of gamma rays, e.g. Compton effect

23/20075 . . . {by measuring interferences of X-rays, e.g. Borrmann effect}

23/20083 . . . {by using a combination of at least two measurements at least one being a transmission measurement and one a scatter measurement}

23/20091 . . . Measuring the energy-dispersion spectrum [EDS] of diffracted radiation
by measuring small-angle scattering

**WARNING**

Group G01N 23/201 is impacted by reclassification into groups G01N 23/205, G01N 23/207, and G01N 23/2073.

All groups listed in this Warning should be considered in order to perform a complete search.

using neutrons

**WARNING**

Group G01N 23/202 is impacted by reclassification into groups G01N 23/205, G01N 23/207, and G01N 23/2073.

All groups listed in this Warning should be considered in order to perform a complete search.

Measuring back scattering using neutrons

**WARNING**

Group G01N 23/205 is incomplete pending reclassification of documents from groups G01N 23/201, G01N 23/202, and G01N 23/207.

Groups G01N 23/201, G01N 23/202 and G01N 23/205 should be considered in order to perform a complete search.

Analysing diffraction patterns
diffraction cameras

**WARNING**

Group G01N 23/207 is incomplete pending reclassification of documents from groups G01N 23/201 and G01N 23/202.

Groups G01N 23/201, G01N 23/202 and G01N 23/207 should be considered in order to perform a complete search.

23/2073  .  .  {using neutron detectors (neutron spectrometry G01T 3/00)}

**WARNING**

Group G01N 23/2073 is incomplete pending reclassification of documents from groups G01N 23/201 and G01N 23/202.

Groups G01N 23/201, G01N 23/202 and G01N 23/2073 should be considered in order to perform a complete search.

by measuring secondary emission from the material

**NOTE**

Devices per se are classified in the relevant places, e.g. H01J 37/00, H01J 49/00

**WARNING**

Group G01N 23/22 is impacted by reclassification into group G01N 23/2209.

Groups G01N 23/22 and G01N 23/2209 should be considered in order to perform a complete search.

Preparing specimens therefor

Specimen supports therefor; Sample conveying means therefore

Combination of two or more measurements, at least one measurement being that of secondary emission, e.g. combination of secondary electron [SE] measurement and back-scattered electron [BSE] measurement

all measurements being of a secondary emission, e.g. combination of SE measurement and characteristic X-ray measurement

using wavelength dispersive spectroscopy [WDS]

**WARNING**

Group G01N 23/2209 is incomplete pending reclassification of documents from group G01N 23/22.

Groups G01N 23/22 and G01N 23/2209 should be considered in order to perform a complete search.

by activation analysis

using neutron activation analysis [NAA]

by irradiating the sample with X-rays or gammarays and by measuring X-ray fluorescence

**WARNING**

Group G01N 23/223 is incomplete pending reclassification of documents from group G01N 23/2076.

Groups G01N 23/2076 and G01N 23/223 should be considered in order to perform a complete search.

using electron or ion

using incident electron beams, e.g. scanning electron microscopy [SEM]

Measuring emitted X-rays, e.g. electron probe microanalysis [EPMA]

Measuring cathodoluminescence

using incident ion beams, e.g. proton beams
23/2257 . . . . Measuring excited X-rays, i.e. particle-induced X-ray emission [PIXE]

23/2258 . . . . Measuring secondary ion emission, e.g. secondary ion mass spectrometry [SIMS] (mass-to-charge ratio analysis aspects of SIMS for material analysis G01N 27/62)

**WARNING**

Group G01N 23/2258 is impacted by reclassification into group G01N 27/62.

Groups G01N 23/2258 and G01N 27/62 should be considered in order to perform a complete search.

23/227 . . . Measuring photoelectric effect, e.g. photoelectron emission microscopy [PEEM]

23/2273 . . . Measuring photoelectron spectrum, e.g. electron spectroscopy for chemical analysis [ESCA] or X-ray photoelectron spectroscopy [XPS]

23/2276 . . . using the Auger effect, e.g. Auger electron spectroscopy [AES]

**24/00 Investigating or analyzing materials by the use of nuclear magnetic resonance, electron paramagnetic resonance or other spin effects**

24/002 . . . [Using resonance on molecular beams (atomic clocks G04F 5/14; beam masers H01S 1/06)]

24/004 . . . [Using acoustical resonance, i.e. phonon interactions]

24/006 . . . [Using optical pumping (magnetometers using optical pumping G01R 33/26, optical pumping of lasers H01S 3/091)]

24/008 . . . [Using resonance effects in zero field, e.g. in microwave, submillimetric region (by measuring absorption of microwaves by the material G01N 22/00)]

24/08 . . . by using nuclear magnetic resonance (G01N 24/12 takes precedence)

24/081 . . . [Making measurements of geologic samples, e.g. measurements of moisture, pH, porosity, permeability, tortuosity or viscosity]

24/082 . . . [Measurement of solid, liquid or gas content]

24/084 . . . [Detection of potentially hazardous samples, e.g. toxic samples, explosives, drugs, firearms, weapons]

24/085 . . . [Analysis of materials for the purpose of controlling industrial production systems]

24/087 . . . [Structure determination of a chemical compound, e.g. of a biomolecule such as a protein]

24/088 . . . [Assessment or manipulation of a chemical or biochemical reaction, e.g. verification whether a chemical reaction occurred or whether a ligand binds to a receptor in drug screening or assessing reaction kinetics]

24/10 . . . by using electron paramagnetic resonance (G01N 24/12 takes precedence)

24/12 . . . by using double resonance

24/14 . . . by using cyclotron resonance

**25/00 Investigating or analyzing materials by the use of thermal means (G01N 3/00 - G01N 23/00 take precedence)**

25/005 . . . [by investigating specific heat]

25/02 . . . by investigating changes of state or changes of phase; by investigating sintering [(investigating or analysing oils or hydrocarbon fluids by measuring cloud point or pour point G01N 33/2811)]

25/04 . . . of melting point; of freezing point; of softening point

25/06 . . . Analysis by measuring change of freezing point

25/08 . . . of boiling point

25/085 . . . [Investigating nucleation]

25/10 . . . Analysis by measuring change of boiling point

25/12 . . . of critical point; of other phase change

25/14 . . . by using distillation, extraction, sublimation, condensation, freezing, or crystallisation (G01N 25/02 takes precedence)

25/142 . . . [by condensation]

25/145 . . . [Accessories, e.g. cooling devices (in general B01L, E25D)]

25/147 . . . [by crystallisation]

25/16 . . . by investigating thermal coefficient of expansion

25/18 . . . by investigating thermal conductivity (by calorimetry G01N 25/20; by measuring change of resistance of an electrically-heated body G01N 27/18)

25/20 . . . by investigating the development of heat, i.e. calorimetry, e.g. by measuring specific heat, by measuring thermal conductivity (calorimeters per se G01K)

25/22 . . . on combustion or catalytic oxidation, e.g. of components of gas mixtures

25/24 . . . using combustion tubes, e.g. for microanalysis

25/26 . . . using combustion with oxygen under pressure, e.g. in bomb calorimeter

25/28 . . . the rise in temperature of the gases resulting from combustion being measured directly

25/30 . . . using electric temperature-responsive elements

25/32 . . . using thermoelectric elements

25/34 . . . using mechanical temperature-responsive elements, e.g. bimetallic (bimetallic elements per se G12B 1/02)

25/36 . . . for investigating the composition of gas mixtures

25/38 . . . using the melting or combustion of a solid

25/385 . . . [for investigating the composition of gas mixtures]

25/40 . . . the heat developed being transferred to a flowing fluid

25/42 . . . continuously

25/44 . . . the heat developed being transferred to a fixed quantity of fluid

25/46 . . . for investigating the composition of gas mixtures

25/48 . . . on solution, sorption, or a chemical reaction not involving combustion or catalytic oxidation

25/4806 . . . [Details not adapted to a particular type of sample]

25/4813 . . . [concerning the measuring means]

25/482 . . . [concerning the temperature responsive elements (measuring temperature or quantity of heat, thermally-sensitive elements G01K; thermoelectric devices H01L 35/00; H01L 37/00)]
Investigating or analysing materials by the use of electric, electro-chemical, or magnetic means (G01N 3/00); measurement or testing electric or magnetic variables or of electric or magnetic properties of materials (G01R)

27/00 Investigating or analysing materials by the use of electric, electro-chemical, or magnetic means (G01N 3/00) - G01N 25/00 (take precedence; measurement or testing electric or magnetic variables or of electric or magnetic properties of materials (G01R))

27/007 . . . . . . . (by investigating the electric dipolar moment (measuring piezo-electric properties G01R 29/22))
27/02 . . . . . . . by investigating the impedance of the material
27/021 . . . . . . . (before and after chemical transformation of the material)
27/023 . . . . . . . (where the material is placed in the field of a coil)
27/025 . . . . . . . [a current being generated within the material by induction]
27/026 . . . . . . . (Dielectric impedance spectroscopy (electrochemical impedance spectroscopy for measuring corrosion G01N 17/02))
27/028 . . . . . . . (Circuits therefor (measuring impedance per se G01R 27/02))
27/04 . . . . . . . by investigating resistance ((for measuring the amount of particles G01N 15/0650))
27/041 . . . . . . . [of a solid body]
27/043 . . . . . . . [of a granular material]
27/045 . . . . . . . (Circuits (measuring resistance per se G01R 27/02; e.g. G01R 27/22))
27/046 . . . . . . . [provided with temperature compensation]
27/048 . . . . . . . [for determining moisture content of the material]

27/06 . . . . . . . of a liquid (involving electrolysis G01N 27/26)
27/07 . . . . . . . Construction of measuring vessels; Electrodes therefor
27/08 . . . . . . . which is flowing continuously
27/10 . . . . . . . Investigation or analysis specially adapted for controlling or monitoring operations or for signalling
27/12 . . . . . . . of a solid body in dependence upon absorption of a fluid; of a solid body in dependence upon reaction with a fluid {, for detecting components in the fluid}
27/121 . . . . . . . [for determining moisture content, e.g. humidity, of the fluid (moisture content of the tested material G01N 27/048)]
27/122 . . . . . . . [Circuits particularly adapted therefor, e.g. linearising circuits]
27/123 . . . . . . . {for controlling the temperature (temperature control per se G01D 23/00)}
27/124 . . . . . . . {varying the temperature, e.g. in a cyclic manner}
27/125 . . . . . . . [Composition of the body, e.g. the composition of its sensitive layer]
27/126 . . . . . . . [comprising organic polymers]
27/127 . . . . . . . [comprising nanoparticles]
27/128 . . . . . . . [Microapparatus]
27/129 . . . . . . . [Diode type sensors, e.g. gas sensitive Schottky diodes (capacitor type sensors G01N 27/227; field-effect transistor type sensors G01N 27/414)]
27/14 . . . . . . . of an electrically-heated body in dependence upon change of temperature
27/16 . . . . . . . caused by burning or catalytic oxidation of a surrounding material to be tested, e.g. of gas
27/18 . . . . . . . caused by changes in the thermal conductivity of a surrounding material to be tested (G01N 27/20 takes precedence)
27/185 . . . . . . . (using a catharometer)
27/20 . . . . . . . Investigating the presence of flaws
27/205 . . . . . . . [in insulating materials]
27/22 . . . . . . . by investigating capacitance
27/221 . . . . . . . (by investigating the dielectric properties (using microwaves G01N 22/00; measuring loss factors or dielectric constants per se G01R 27/26))
27/227 . . . . . . . [Sensors changing capacitance upon adsorption or absorption of fluid components, e.g. electrolyte-insulator-semiconductor sensors, MOS capacitors (G01N 27/225 takes precedence)]

2027/222 . . . . . . . [for analysing gases]
27/223 . . . . . . . [for determining moisture content, e.g. humidity (rain detectors on vehicle windows B60S 1/0825)]
27/225 . . . . . . . [by using hygroscopic materials]
27/226 . . . . . . . [Construction of measuring vessels; Electrodes therefor]
27/227 . . . . . . . [Sensors changing capacitance upon adsorption or absorption of fluid components, e.g. electrolyte-insulator-semiconductor sensors, MOS capacitors (G01N 27/225 takes precedence)]
27/228 . . . . . . . (Circuits therefor (measuring capacitance per se G01R 27/26))
27/24 . . . . . . . Investigating the presence of flaws
27/26 . . . . . . . by investigating electrochemical variables; by using electrolysis or electrophoresis
Electrolytic cell components

[Means for supporting or introducing electrochemical probes]

Reference electrodes

[pH-sensitive, e.g. quinhydrone, antimony or hydrogen electrodes (ion-selective electrodes G01N 27/333; glass electrodes G01N 27/36)]

Gas permeable electrodes

[Optically transparent or photoresponsive electrodes]

Disposable laminated or multilayered electrodes (G01N 27/3272 takes precedence)

[At least partially made of carbon]

Half-cells with permeable membranes, e.g. semi-porous or perm-selective membranes

Calomel electrodes

Biochemical electrodes (electrical and mechanical details of in vitro measurements (chemical and biological details C12Q 1/00; G01N 33/543: in vivo A61B 5/00))

Amperometric enzyme electrodes for analytes in body fluids, e.g. glucose in blood (amperometry per se G01N 27/49; aspects concerning the enzyme reagent C12Q 1/001)

Test elements therefor, i.e. disposable laminated substrates with electrodes, reagent and channels (optical biosensors G01N 33/52)

Devices therefor, e.g. test element readers, circuitry (details not specific to biochemical electrodes G01N 33/4875)

Corrective measures, e.g. error detection, compensation for temperature or hematocrit, calibration (coding of calibration information G01N 33/48771)

Sensing specific biomolecules, e.g. nucleic acid strands, based on an electrode surface reaction

being a hybridisation with immobilised receptors (using a FET type sensor G01N 27/4145; concerning the hybridisation C12Q 1/68)

being a redox reaction, e.g. detection by cyclic voltammetry (voltammetry per se G01N 27/42; G01N 27/48)

involving nanosized elements, e.g. nanogaps or nanoparticles (nanopores G01N 33/4872; magnetic beads G01N 27/7451)

Ion-selective electrodes or membranes (glass electrodes G01N 27/36)

the membrane containing at least one organic component (G01N 27/3271 takes precedence; aspects concerning the enzyme reagent in enzyme electrodes C12Q 1/001)

Dropping-mercury electrodes

Glass electrodes

Cleaning of electrodes

Semi-permeable membranes or partitions

Salt-bridge leaks; Liquid junctions

Cells and electrode assemblies

Combination of a single ion-sensing electrode and a single reference electrode (G01N 27/406 and G01N 27/413 take precedence)

Cells with anode, cathode and cell electrolyte on the same side of a permeable membrane which separates them from the sample fluid [e.g. Clark-type oxygen sensors]

Cells and probes with solid electrolytes

Electrical connectors associated therewith

Circuit arrangements specially adapted therefor

Means for heating or controlling the temperature of the solid electrolyte

for investigating or analysing gases ([G01N 27/411 takes precedence])

using sensor elements of laminated structure

characterized by the diffusion barrier

Composition or fabrication of the solid electrolyte

for detection of gases other than oxygen

Composition or fabrication of the electrodes and coatings theeren, e.g. catalysts

Reference electrodes or reference mixtures

Means for protecting the electrolyte or the electrodes

Means for sealing the sensor element in a housing

Oxygen concentration cells

Oxygen pumping cells

for investigating liquid metals

using sensor elements of laminated structure

Composition or fabrication of the solid electrolyte

for detection of gases other than oxygen

Composition or fabrication of the electrodes and coatings thereon, e.g. catalysts

Reference electrodes or reference mixtures

Means for protecting the electrolyte or the electrodes

Composition or fabrication of the solid electrolyte

for detection of gases other than oxygen

Composition or fabrication of the electrodes and coatings thereon, e.g. catalysts

Reference electrodes or reference mixtures

Means for protecting the electrolyte or the electrodes

Concentration cells using liquid electrolytes [measuring currents or voltages in voltaic cells]
27/414 . . . . . . Ion-sensitive or chemical field-effect transistors, i.e. ISFETS or CHEMFETS
27/4141 . . . . . . [specially adapted for gases]
27/4143 . . . . . . [Air gap between gate and channel, i.e. suspended gate [SG] FETs (work function measurement per se G01N 27/002)]
27/4145 . . . . . . [specially adapted for biomolecules, e.g. gate electrode with immobilised receptors]
27/4146 . . . . . . [involving nanozoned elements, e.g. nanotubes, nanowires]
27/4148 . . . . . . [Integrated circuits therefor, e.g. fabricated by CMOS processing (CMOS processing per se H01L 21/82)]
27/416 . . . . . . Systems (G01N 27/27 takes precedence {; for testing batteries G01R 31/36})
27/4161 . . . . . . [measuring the voltage and using a constant current supply, e.g. chronopotentiometry]
27/4162 . . . . . . [investigating the composition of gases, by the influence exerted on ionic conductivity in a liquid (conductometry in general G01N 27/06; amperometric gas sensors G01N 27/404)]
27/4163 . . . . . . [checking the operation of, or calibrating, the measuring apparatus (G01N 27/3274, G01N 27/4175 and G01N 33/0006 take precedence)]
27/4165 . . . . . . [for pH meters]
27/4166 . . . . . . [measuring a particular property of an electrolyte]
27/4167 . . . . . . [pH (electrodes therefor G01N 27/302, G01N 27/36)]
27/4168 . . . . . . [Oxidation-reduction potential, e.g. for chlorination of water (water analysis G01N 33/18)]
27/417 . . . . . . using cells [i.e. more than one cell] and probes with solid electrolytes
27/4175 . . . . . . [Calibrating or checking the analyser]
27/419 . . . . . . [Measuring voltages or currents of oxygen pumping cells and oxygen concentration cells]
27/42 . . . . . . Measuring deposition or liberation of materials from an electrolyte; Coulometry, i.e. measuring coulomb-equivalent of material in an electrolyte
27/423 . . . . . . [Coulometry]
27/426 . . . . . . [by weighing]
27/44 . . . . . . using electrolysis to regenerate a reagent, e.g. for titration
27/447 . . . . . . using electrophoresis (aspects concerning peptides or proteins G07K 1/26; for non-analytical purposes B01D 57/02; separating particles by dielectrophoresis B03C 5/00)
27/44704 . . . . . . [Details; Accessories]
27/44708 . . . . . . [Cooling]
27/44713 . . . . . . [Particularly adapted electric power supply]
27/44717 . . . . . . [Arrangements for investigating the separated zones, e.g. localising zones]
27/44721 . . . . . . [by optical means]
27/44726 . . . . . . [using specific dyes, markers or binding molecules]
27/4473 . . . . . . [by electric means]
27/44734 . . . . . . [by thermal means]
27/44739 . . . . . . [Collecting the separated zones, e.g. blotting to a membrane or punching of gel spots]
27/44743 . . . . . . [Introducing samples]
27/44747 . . . . . . [Composition of gel or of carrier mixture]
27/44752 . . . . . . [Controlling the zeta potential, e.g. by wall coatings]
27/44756 . . . . . . [Apparatus specially adapted therefor]
27/4476 . . . . . . [of the density gradient type]
27/44765 . . . . . . [of the counter-flow type]
27/44769 . . . . . . [Continuous electrophoresis, e.g. the sample being continuously introduced, e.g. free flow electrophoresis [FFE]]
27/44773 . . . . . . [Multi-stage electrophoresis, e.g. two-dimensional electrophoresis]
27/44778 . . . . . . [on a common gel carrier, i.e. 2D gel electrophoresis]
27/44782 . . . . . . [of a plurality of samples]
27/44786 . . . . . . [of the magneto-electrophoresis type]
27/44791 . . . . . . [Microapparatus (sample containers with integrated microfluidic structures BO11.3/5027)]
27/44795 . . . . . . [Isoelectric focusing]
27/453 . . . . . . Cells therefor
27/48 . . . . . . . . Polarography, i.e. measuring changes in current under a slowly-varying voltage
27/49 . . . . . . Systems involving the determination of the current at a single specific value, or small range of values, of applied voltage for producing selective measurement of one or more particular ionic species
27/60 . . . . . . by investigating electrostatic variables {, e.g. electrographic law testing (G01N 27/007 takes precedence)}
27/605 . . . . . . [for determining moisture content, e.g. humidity]
27/61 . . . . . . Investigating the presence of flaws
27/62 . . . . . . by investigating the ionisation of gases; by investigating electric discharges, e.g. emission of cathode

**WARNING**

Group G01N 27/62 is incomplete pending reclassification of documents from group G01N 23/2258.

Groups G01N 23/2258 and G01N 27/62 should be considered in order to perform a complete search.

27/622 . . . . . . [separating and identifying ionized molecules based on their mobility in a carrier gas, i.e. ion mobility spectrometry (mass spectrometry H01J 49/26)]
27/624 . . . . . . [using a non-uniform electric field, i.e. differential mobility spectrometry [DMS] or high-field asymmetric-waveform ion-mobility spectrometry [FAIMS]]
27/626 . . . . . . [using heat to ionise a gas]
27/628 . . . . . . [and a beam of energy, e.g. laser enhanced ionisation]
27/64 . . . . . . using wave or particle radiation to ionise a gas, e.g. in an ionisation chamber {discharge tubes for measuring pressure of introduced gas or for detecting presence of gas H01J 41/02}
27/66 . . . . . . and measuring current or voltage
27/68 . . . . . . using electric discharge to ionise a gas
27/70 . . . and measuring current or voltage
27/72 . by investigating magnetic variables
27/725 . . . [by using magneto-acoustical effects or the Barkhausen effect]
27/74 . . . of fluids (G01N 24/00 takes precedence)
27/745 . . . for detecting magnetic beads used in biochemical assays (concerning the assays G01N 33/54326; sensors therefor G01R 35/1269; automatic analysers therefor G01N 35/0098)
27/76 . . . by investigating susceptibility (measuring susceptibility G01R 33/16)
27/80 . . . for investigating mechanical hardness, e.g. by investigating saturation or remanence of ferromagnetic material
27/82 . . . for investigating the presence of flaws
27/825 . . . [by using magnetic attraction force (G01N 27/84 takes precedence)]
27/83 . . . by investigating stray magnetic fields
27/84 . . . by applying magnetic powder or magnetic ink
27/85 . . . using magnetographic methods
27/87 . . . using probes
27/90 . . . using eddy currents ([for measuring thickness G01B 70/06])
27/9006 . . . [Details]
27/9013 . . . [specially adapted for scanning]
27/902 . . . by moving the sensors
27/9026 . . . by moving the material
27/9033 . . . [Sensors]
27/904 . . . [and more than one sensor]
27/9046 . . . [by analysing electrical signals]
27/9053 . . . [Compensating for probe to workpiece spacing]
27/906 . . . Compensating for velocity]
27/9066 . . . [by measuring the propagation time, or delaying the signals]
27/9073 . . . Recording measured data (in general G01D)
27/908 . . . [synchronously with scanning]
27/9086 . . . [Calibrating of recording device]
27/9093 . . . [arrangements for supporting or marking or rejecting, e.g. machines (sorting individual articles or bulk material fit to be sorted piece-meal, controlled indirectly by devices which detect or measure some feature of the article or material to be sorted B07C 5/000)]
27/92 . by investigating breakdown voltage (G01N 27/60, G01N 27/62 take precedence)

29/00 Investigating or analysing materials by the use of ultrasonic, sonic or infrasonic waves; Visualisation of the interior of objects by transmitting ultrasonic or sonic waves through the object (G01N 30/00, G01N 5/00, G01N 7/00, G01N 9/00, G01N 11/00, G01N 13/00, G01N 15/00, G01N 17/00, G01N 19/00, G01N 21/00, G01N 22/00, G01N 23/00, G01N 24/00, G01N 25/00, G01N 27/00 take precedence)

29/02 . Analysing fluids (using acoustic emission techniques G01N 29/14; [constructional or flow details for analysing fluids G01N 29/222; optoacoustic fluid cells G01N 29/2425])

29/022 . [Fluid sensors based on microsensors, e.g. quartz crystal-microbalance [QC]M, surface acoustic wave [SAW] devices, tuning forks, cantilevers, flexural plate wave [FPW] devices (microdevices per se B81B)]

29/024 . by measuring propagation velocity or propagation time of acoustic waves
29/028 . by measuring mechanical or acoustic impedance
29/032 . by measuring attenuation of acoustic waves
29/036 . by measuring frequency or resonance of acoustic waves
29/04 . Analysing solids (using acoustic emission techniques G01N 29/14)

29/041 . [on the surface of the material, e.g. using Lamb, Rayleigh or shear waves]
29/043 . [in the interior, e.g. by shear waves]
29/045 . [by imparting shocks to the workpiece and detecting the vibrations or the acoustic waves caused by the shocks [measuring resonant frequency G01H 13/00; measuring strength properties by application of mechanical stress G01N 3/00]]

29/046 . [using the echo of particles imparting on a surface; using acoustic emission of particles (investigating concentration of particle suspensions G01N 15/00; devices for measuring flow of solids in suspension G01F 1/74)]

29/048 . [Marking the faulty objects]

29/06 . Visualisation of the interior, e.g. acoustic microscopy ([medical or veterinary diagnosis using sonic waves A61B 8/00; representation of acoustic wave distribution G01H 3/125, G01H 9/002; short-range imaging systems using reflection of acoustic waves G01S 15/8006])

29/0609 . . . [Display arrangements, e.g. colour displays (indicating or recording in connection with measuring in general G01D)]

29/0618 . . . [synchronised with scanning, e.g. in real-time]

29/0627 . . . [Cathode-ray tube displays (in general G01R 13/20)]

29/0636 . . . [with permanent recording]

29/0645 . . . [Display representation or displayed parameters, e.g. A-, B- or C-Scan]

29/0654 . . . [Imaging]

29/0663 . . . [by acoustic holography (acoustical holography per se G03H 3/00)]

29/0672 . . . [by acoustic tomography (medical tomography A61B 8/13)]

29/0681 . . . [by acoustic microscopy, e.g. scanning acoustic microscopy]

29/069 . . . [Defect imaging, localisation and sizing using, e.g. time of flight diffraction [TOFD], synthetic aperture focusing technique [SAFT], Amplituden-Laufzeit-Ortskurven [ALOK] technique]

29/07 . by measuring propagation velocity or propagation time of acoustic waves

29/075 . . . [by measuring or comparing phase angle (measuring frequencies or phase angles per se G01F 23/00, G01F 25/00)]

29/09 . by measuring mechanical or acoustic impedance

29/11 . by measuring attenuation of acoustic waves
Details [e.g. general constructional or apparatus details]

Arrangements for directing or focusing the acoustical waves (electronic orientation or focusing G01N 29/262; sound directing or focusing G10K 11/26; mechanical steering of sound transducers or their beams G10K 11/35)

Constructional or flow details for analysing fluids (optoacoustic fluid cells G01N 29/2425)

Supports, positioning or alignment in fixed situation (mounting transducers per se G10K 11/004)

Supports, positioning or alignment in moving situation

Handheld or portable devices

related to high pressure, tension or stress conditions

related to high temperature conditions

Probes (transducers for acoustic waves B06B, G10K; for measuring G01H)

Electrostatic or capacitative probes, e.g. electret or cMUT-probes

using the magnetostrictive properties of the material to be examined, e.g. electromagnetic acoustic transducers [EMAT]; investigating the presence of flaws using eddy currents G01N 27/90; magnetostrictive transducers B06B 1/08; measuring magnetostrictive properties G01R 33/18)

using optoacoustic interaction with the material, e.g. laser radiation, photoacoustics (photoacoustic cells G01N 21/1702; measuring characteristics of vibrations by using radiation-sensitive means G01H 9/00; acousto-optical conversion techniques for short-range imaging G01S 15/8965; sound-producing devices using laser bundle G10K 15/046)

optoacoustic fluid cells therefor

optic 

using other means for acoustic excitation, e.g. heat, microwaves, electron beams (sound producing devices not otherwise provided for G10K 15/04)

Piezoelectric probes

Quartz crystal probes

Ceramic probes, e.g. lead zirconate titanate [PZF] probes

Focusing probes (focusing arrangements G01N 29/221)

Probes with waveguides, e.g. SAW devices

Probes with delay lines

Embedded probes, i.e. probes incorporated in objects to be inspected

Wireless probes, e.g. with transponders or radio links

Arrangements for directing or focusing, e.g. with phased arrays (phased arrays per se G10K 11/34)

by moving the sensor relative to a stationary material

by moving the material relative to a stationary sensor

by moving both the sensor and the material

providing acoustic coupling, e.g. water (impedance matching G10K 11/02)

Arrangements for calibrating or comparing, e.g. with standard objects

Arrangements for suppressing undesired influences, e.g. temperature or pressure variations

[compensating for pressure or tension variations]

Generating the ultrasonic, sonic or infrasonic waves (e.g. electronic circuits specially adapted therefor)

with time characteristics

pulse waves, e.g. particular sequence of pulses, bursts

continuous waves

with amplitude characteristics, e.g. modulated signal

with frequency characteristics, e.g. single frequency signals, chirp signals (measuring frequency of mechanical vibrations or acoustic waves in general G01H 1/06; G01H 3/04; measuring frequency or analysing frequency spectra G01R 23/00)

Detecting the response signal, e.g. electronic circuits specially adapted therefor)

by time filtering, e.g. using time gates

by amplitude filtering, e.g. by applying a threshold or by gain control

by frequency filtering (or by tuning to resonant frequency)

Processing the detected response signal, e.g. electronic circuits specially adapted therefor (digital signal processing per se G06F 17/00)

by comparison

with a model, e.g. best-fit, regression analysis

with stored values, e.g. threshold values

with a reference signal (amplitude comparison G01N 29/48)

(Classification of defects)

Signal recognition, e.g. specific values or portions, signal events, signatures)

Signal correction, e.g. distance amplitude correction [DAC], distance gain size [DGS], noise filtering

Mathematical theories or simulation

Neutral networks
Investigating or analysing materials by separation into components using adsorption, absorption or similar phenomena or using ion-exchange, e.g., chromatography (or field flow fractionation) (G01N 3/00, G01N 5/00, G01N 7/00, G01N 9/00, G01N 11/00, G01N 13/00, G01N 15/00, G01N 17/00, G01N 19/00, G01N 21/00, G01N 22/00, G01N 23/00, G01N 24/00, G01N 25/00, G01N 27/00, G01N 29/00 take precedence)

NOTE

In this group, the following term is used with the meaning indicated:
• “conditioning” refers to the adjustment or control of environmental parameters, e.g. temperature or pressure.

30/005

(Flow field fractionation)

2030/001

(hydrodynamic fractionation, e.g. CHDF or HDC)

2030/0015

(characterised by driving force)

2030/002

(sedimentation or centrifugal FFF)

2030/0025

(cross flow FFF)

2030/003

(Asymmetrical flow)

2030/0035

(electrical field)

2030/004

(characterised by opposing force)

2030/0045

(normal, i.e. diffusion or thermal FFF)

2030/005

(steric FFF, i.e. diffusion negligible for larger particles; separation due to protrusion depth into carrier flow profile)

2030/0055

(hyperlayer, i.e. different particle populations in hyperlayers elevated above wall)

2030/006

(lift hyperlayer, i.e. hydrodynamic lift forces dominate steric effect)

2030/0065

(Dielectric FFF, i.e. opposing forces dominate hydrodynamic lift forces and steric effects)

2030/007

(programming of driving force (carrier programming G01N 30/02))

2030/0075

(Separation due to differential desorption)

2030/008

(Thermal desorption)

2030/0085

(the desorption energy being adapted to sample, e.g. laser tuned to molecular bonds)

2030/009

(Extraction)

2030/0095

(Separation specially adapted for use outside laboratory, e.g. field sampling, portable equipments)

30/02

(Column chromatography)

30/022

(characterised by the kind of separation mechanism)

30/025

(Gas chromatography)

30/027

(Liquid chromatography)

30/03

(Preparation or injection of sample to be analysed)

30/042

(Standards)
Conditioning of the sorbent material or stationary phase

- Sorbent materials
- Packing methods or coating methods

Flow patterns
- Flow switching in a single column
- Flow switching in parallel

Elution in two different directions on one stationary phase

- Radial chromatography
- Centrifugal chromatography

Pressure

- Turbulent flow of mobile phase

Pumps
- Fluid distributors

- Fluid seals

- Capillaries

- Adjustable pistons

Pumps

- Calibrating devices
- Interfaces to detectors
- Pulse dampers

Valves, e.g. check valves of pumps

NOTE

Attention is drawn to the Notes following the titles of class B81 and subclass B81B relating to "microstructural devices" and "microstructural systems" and the Notes following the title of subclass B82B relating to "nanostructures"
Signal analysis

- {with integration or differentiation}
- {Differentiation}
- {Dividing or multiplying by a constant}
- {Filtering, e.g. Fourier filtering}
- {Other mathematical operations for data preprocessing}
- [Peak quality criteria]
- [Peak shape]
- [Baseline]
- [Data segmentation, e.g. time windows]
- [Feature segmentation not otherwise provided for]
- [Recording, data acquisition, archiving and storage]
- [Details of data formats]
- [Optimising operation parameters]
- [Expert systems; optimising a large number of parameters]
- [for calibrating the measuring apparatus]
- [using retention times]
- [not depending on an individual instrument, e.g. retention time indexes or calibration transfer]
- [Evaluation, i.e. decoding of the signal into analytical information (for analysis of specific compounds see also G01N 30/88 and subgroups of G01N 33/00; chemical libraries per se C40B1)]
- [Target compound analysis, i.e. whereby a limited number of peaks is analysed]
- [Group type analysis, e.g. of components having structural properties in common]
- [Fingerprinting, e.g. of components without prior knowledge of the sample components]
- [Peak purity of co-eluting compounds]
- [Models, e.g. prediction of retention times, method development and validation]
- [Details of Software]
- Integrated analysis systems specially adapted therefor, not covered by a single one of the groups G01N 30/04 - G01N 30/86
- [automated systems]
- [analysis specially adapted for the sample]
- [biological materials]
- [involving amino acids]
- [involving blood]
- [involving nucleic acids]
- [involving peptides or proteins]
- [involving saccharides]
- [involving organic compounds]
- [involving halogenated organic compounds]
- [involving polymers]
- [involving hydrocarbons]
- [inorganic compounds]
- [Fullerenes]
- [elemental analysis, e.g. isotope dilution analysis]
- [impurities]
- [optical isomers]
- [Modular construction, specially adapted therefor]
- [Analysis of industrial production processes]
- [monitoring the quality of the stationary phase; column performance]
Investigating or analysing non-biological materials by the use of the chemical methods specified in the subgroup; Apparatus specially adapted for such methods

31/00

NOTE

The observation of the progress of the reaction specified below by any of the methods specified in groups G01N 3/00 - G01N 3/00 - G01N 29/00, if this is of major importance, is dealt with in the group concerned.

31/02

using precipitation (measuring deposition or liberation of materials from an electrolyte G01N 27/42)

31/10

using catalysis

31/12

using combustion (G01N 25/20 takes precedence)

31/16

using titration

31/162

[Determining the equivalent point by means of a discontinuity]

31/164

{by electrical or electrochemical means]

31/166

[Continuous titration of flowing liquids]

31/168

[Determining water content by using Karl Fischer reagent]

31/18

Burettes specially adapted for titration

31/20

using microanalysis, e.g. drop reaction

31/22

using chemical indicators (G01N 31/02 takes precedence)

31/221

[for investigating pH value]

31/222

[for investigating moisture content]

31/223

[for investigating presence of specific gases or aerosols (G01N 31/221, G01N 31/222 take precedence; actuation of fire alarm by presence of smoke or gases G01B 17/10)]

31/224

[for investigating presence of dangerous gases]

31/225

[for oxygen, e.g. including dissolved oxygen]

31/226

[for investigating the degree of sterilisation]

31/227

[for nitrates or nitrates]

31/228

[for peroxides]

31/229

[for investigating time/temperature history]

33/00

Investigating or analysing materials by specific methods not covered by groups G01N 1/00 - G01N 31/00

33/001

{by organoleptic means]

33/003

[Composite materials]

33/004

[Gaseous mixtures, e.g. polluted air (gaseous biological material G01N 33/407; exhaust gas of internal combustion engines G01M 15/102)]

33/006

[Calibrating gas analysers]

33/008

[Details concerning storage of calibration data, e.g. in EEPROM]

33/009

[General constructional details of gas analysers, e.g. portable test equipment (G01N 1/22 takes precedence)]

33/011

[Sample conditioning (in general G01N 1/28)]

33/013

[by a chemical reaction (G01N 33/0024 takes precedence)]

33/014

[by eliminating a gas (G01N 33/0013 and G01N 33/0024 take precedence)]

33/016

[by regulating a physical variable, e.g. pressure, temperature]

33/018

[by diluting a gas]

33/2033/019

[by preconcentration]

33/021

[involving the use of a carrier gas for transport to the sensor]

33/022

[using a number of analysing channels]

33/024

[a chemical reaction taking place or a gas being eliminated in one or more channels]

33/026

[use of an alternating circulation of another gas (calibrating gas analysers G01N 33/0006)]

33/027

[concerning the detector]

33/029

[cleaning]

33/031

[comprising two or more sensors, e.g. a sensor array (electrochemical electrode arrays G01N 27/23)]

33/032

[using two or more different physical functioning modes]

33/034

[comprising neural networks or related mathematical techniques]

33/036

[Specially adapted to detect a particular component (all the other sub-groups of G01N 33/0004 take precedence)]

33/037

[for NOx]

33/039

[for O3]

33/04

[for CO, CO2]

33/042

[for SO2, SO3]

33/044

[for H2S, sulfides]

33/045

[for Hg]

33/047

[for organic compounds]

33/049

[for halogenated organic compounds]

33/05

[for H2]

33/052

[for gaseous halogens]

33/054

[for ammonia]

33/055

[for radionuclides]

33/057

[for warfare agents or explosives (properties of explosives G01N 33/227)]

33/059

[avoiding interference of a gas with the gas to be measured]

33/06

[avoiding interference of water vapour with the gas to be measured]
33/0062 .... [concerning the measuring method, e.g. intermittent, or the display, e.g. digital]
33/0063 .... [using a threshold to release an alarm or displaying means (alarm arrangements G08B, e.g. fire alarm actuated by the presence of smoke or gases G08B 17/10, for other abnormal conditions G08B 21/00)]
33/0065 .... [by measuring the rate of variation of the concentration]
33/0067 .... [using more than one threshold]
2033/0068 .... [using a computer specifically programmed]
33/007 .... [Arrangements to check the analyser (calibrating G01N 33/0006)]
2033/0072 .... [by generating a test gas]
33/0073 .... [Control unit therefor]
33/0075 .... [for multiple spatially distributed sensors, e.g. for environmental monitoring (transmission systems for measured values G08C)]
2033/0077 .... [testing material properties on individual granules or tablets]
2033/0078 .... [testing material properties on manufactured objects]
2033/008 .... [sport articles (balls, skis, rackets)]
2033/0081 .... [containers; packages; bottles]
2033/0083 .... [vehicle parts]
2033/0085 .... [wheels]
2033/0086 .... [clothes; hosiery]
2033/0088 .... [other articles]
2033/009 .... [seals]
2033/0091 .... [Powders]
2033/0093 .... [radioactive materials]
2033/0095 .... [Semiconductive materials]
2033/0096 .... [testing material properties on thin layers or coatings]
33/0098 .... [Plants or trees (wood G01N 33/46)]
33/02 .... Food
33/025 .... [Fruits or vegetables]
33/03 .... Edible oils or edible fats
33/04 .... Dairy products
33/06 .... Determining fat content, e.g. by butyrometer
33/08 .... Eggs, e.g. by candling
33/085 .... [by candling]
33/10 .... Starch-containing substances, e.g. dough
2033/105 .... [Pasta]
33/12 .... Meat; fish
33/14 .... Beverages
33/143 .... [containing sugar]
33/146 .... [containing alcohol]
33/15 .... Medicinal preparations (not Physical properties thereof, e.g. dissolubility (drug screening with animal cells G01N 33/9008)]
33/18 .... Water
33/1806 .... [biological or chemical oxygen demand (BOD or COD)]
33/1813 .... [specific cations in water, e.g. heavy metals (electrochemical analysis G01N 27/26; detection of ions by colorimetry G01N 31/22)]
33/182 .... [specific anions in water (electrochemical analysis G01N 27/26; detection of ions by colorimetry G01N 31/22)]
33/1826 .... [organic contamination in water]
33/1833 .... [Oil in water (water in oil G01N 33/2847)]
2033/184 .... [herbicides, pesticides, fungicides, insecticides, or the like]
33/1846 .... [Total carbon analysis]
33/1853 .... [hardness of water]
33/186 .... [using one or more living organisms, e.g. a fish]
33/1866 .... [using microorganisms (G01N 33/1806 takes precedence)]
2033/1873 .... [ice or snow]
33/188 .... [Determining the state of nitrification (biological treatment of water by aerobic or anaerobic processes for denitrification of water C02F 3/305)]
33/1886 .... [using probes, e.g. submersible probes, buoys]
33/1893 .... [using flow cells]
33/20 .... Metals

**WARNING**

Group G01N 33/20 is impacted by reclassification into groups G01N 33/202.
G01N 33/202.
G01N 33/202.
G01N 33/204.
G01N 33/204.
G01N 33/207, and
G01N 33/208.

All groups listed in this Warning should be considered in order to perform a complete search.

33/202 .... Constituents thereof

**WARNING**

Group G01N 33/202 is incomplete pending reclassification of documents from group G01N 33/20.
G01N 33/202.
G01N 33/202.
G01N 33/204.
G01N 33/204.
G01N 33/207, and
G01N 33/208.

Groups G01N 33/20 and G01N 33/202 should be considered in order to perform a complete search.

33/2022 .... Non-metallic constituents

**WARNING**

Group G01N 33/2022 is incomplete pending reclassification of documents from group G01N 33/20.
G01N 33/202.
G01N 33/202.
G01N 33/204.
G01N 33/204.
G01N 33/207, and
G01N 33/208.

Groups G01N 33/20 and G01N 33/2022 should be considered in order to perform a complete search.

33/2025 .... Gaseous constituents

33/2028 .... Metallic constituents

**WARNING**

Group G01N 33/2028 is incomplete pending reclassification of documents from group G01N 33/20.
G01N 33/202.
G01N 33/202.
G01N 33/204.
G01N 33/204.
G01N 33/207, and
G01N 33/208.

Groups G01N 33/20 and G01N 33/2028 should be considered in order to perform a complete search.
33/204 . . . Structure thereof, e.g. crystal structure

**WARNING**

Group G01N 33/204 is incomplete pending reclassification of documents from group G01N 33/20.

Groups G01N 33/20 and G01N 33/204 should be considered in order to perform a complete search.

33/2045 . . . Defects

**WARNING**

Group G01N 33/2045 is incomplete pending reclassification of documents from group G01N 33/20.

Groups G01N 33/20 and G01N 33/2045 should be considered in order to perform a complete search.

33/205 . . . in liquid state, e.g. molten metals

33/207 . . . Welded or soldered joints; Solderability

**WARNING**

Group G01N 33/207 is incomplete pending reclassification of documents from group G01N 33/20.

Groups G01N 33/20 and G01N 33/207 should be considered in order to perform a complete search.

33/208 . . . Coatings, e.g. platings

**WARNING**

Group G01N 33/208 is incomplete pending reclassification of documents from group G01N 33/20.

Groups G01N 33/20 and G01N 33/208 should be considered in order to perform a complete search.

33/22 . . . Fuels, explosives (liquid hydrocarbons G01N 33/28)

33/222 . . . Solid fuels, e.g. coal

33/225 . . . Gaseous fuels, e.g. natural gas

33/227 . . . Explosives, e.g. combustive properties thereof (detecting explosives in air G01N 33/0057)

33/24 . . . Earth materials (G01N 33/42 takes precedence)

33/241 . . . for hydrocarbon content (drilling mud G01N 33/2823; drilling per se E21B; prospecting G01V)

2033/243 . . . for determining biological parameters concerning composting, biodegradability or bioavailability

2033/245 . . . for agricultural purposes

33/246 . . . for water content (for control of watering A01G 25/1671)

2033/248 . . . related to manure as a biological product, i.e. excluding artificial fertilizers

33/26 . . . Oils; viscous liquids; paints; inks (G01N 33/22 takes precedence)

33/28 . . . Oils, i.e. hydrocarbon liquids (gaseous fuels G01N 33/225; edible oils or edible fats G01N 33/03)

33/2805 . . . investigating the resistance to heat or oxidation (to the weather, to corrosion, or to light G01N 17/00)

33/2811 . . . by measuring cloud point or pour point of oils

33/2817 . . . using a test engine (testing of engines G01M 15/00)

33/2823 . . . raw oil, drilling fluid or polyphasic mixtures (hydrocarbon content of earth materials G01N 33/241; prospecting G01V; drilling per se E21B)

33/2829 . . . mixtures of fuels, e.g. determining the RON-number

33/2835 . . . specific substances contained in the oil or fuel

33/2841 . . . gas in oil, e.g. hydrogen in insulating oil

33/2847 . . . Water in oil (basic sediment and water G01N 33/2823; oil in water G01N 33/1833)

33/2852 . . . alcohol/fuel mixtures

33/2858 . . . metal particles

33/2864 . . . lead content

33/287 . . . Sulfur content

33/2876 . . . Total acid number

33/2882 . . . Markers (marking of fuels C10L 1/00)

33/2888 . . . Lubricating oil characteristics, e.g. deterioration (lubricating properties G01N 33/30)

33/2894 . . . for metal working or machining

33/30 . . . for lubricating properties

33/32 . . . Paints; inks (investigating resistance to the weather, to corrosion, to light G01N 17/00)

33/34 . . . Paper

33/343 . . . (paper pulp)

33/346 . . . (paper sheets)

33/36 . . . Textiles

33/362 . . . material before processing, e.g. bulk cotton or wool

33/365 . . . filiform textiles, e.g. yarns (for measuring diameter G01B)

33/367 . . . Fabric or woven textiles (optical analysis of moving sheets G01N 21/86)

33/38 . . . Concrete; ceramics; glass; bricks

33/381 . . . precious stones; pearls

33/383 . . . Concrete, cement

33/385 . . . Crystals

33/386 . . . Glass

33/388 . . . Ceramics

33/40 . . . Grinding-materials

33/42 . . . Road-making materials (G01N 33/38 takes precedence)

33/44 . . . Resins; rubber; leather

33/442 . . . (Resins, plastics)

33/445 . . . (Rubber)

33/447 . . . (Leather)

33/46 . . . Wood

33/48 . . . Biological material, e.g. blood, urine (G01N 33/02, G01N 33/26, G01N 33/44, G01N 33/46 take precedence); Haemocytometers (counting blood corpuscles distributed over a surface by scanning the surface G06M 11/02)

33/483 . . . Physical analysis of biological material
33/4833 . . . . [of solid biological material, e.g. tissue samples, cell cultures (tissue in vivo A61B 5/00; cell suspensions G01N 33/48735)]
33/4836 . . . . . . . [using multielectrode arrays]
33/487 . . . . of liquid biological material
33/48707 . . . . [by electrical means (G01N 33/49, G01N 33/493 take precedence)]
33/48714 . . . . [for determining substances foreign to the organism, e.g. drugs or heavy metals (drugs by chemical analysis G01N 33/94)]
33/48721 . . . . [Investigating individual macromolecules, e.g. by translocation through nanopores (Coulter counters in general G01N 15/12; fabrication methods for nanoapertures B81B 1/00; sequencing of nucleic acids C12Q 1/68)]
33/48728 . . . . [Investigating individual cells, e.g. by patch clamp, voltage clamp (investigating individual particles in general G01N 15/10)]
33/48735 . . . . [Investigating suspensions of cells, e.g. measuring microbe concentration (by chemical means C12Q 1/04; colony counters C12M 1/34; concentration of particle suspensions in general G01N 15/06)]
33/48742 . . . . [Determining urea by measuring the volume of a gas (in general G01N 7/14 - G01N 7/18)]
33/4875 . . . . [Details of handling test elements, e.g. dispensing or storage, not specific to a particular test method (test-elements per se B01L, automatic analysers G01N 35/00, in-vivo analysis on the human body for medical diagnosis A61B)]
33/48757 . . . . [Test elements dispensed from a stack]
33/48764 . . . . [Test tape taken off a spool]
33/48771 . . . . [Coding of information, e.g. calibration data, lot number]
33/48778 . . . . [Containers specially adapted therefor, e.g. for dry storage]
33/48785 . . . . [Electrical and electronic details of measuring devices for physical analysis of liquid biological material not specific to a particular test method, e.g. user interface or power supply]
33/48792 . . . . [Data management, e.g. communication with processing unit (for in vivo diagnostics A61B 5/0002; transmission systems for measured values G08C)]
33/49 . . . . Blood [(chemical methods for determining blood cell populations G01N 33/5094; chemical analysis of blood groups or blood types G01N 33/80)]
33/4905 . . . . [Determining clotting time of blood (by chemical methods G01N 33/86, C12Q 1/54)]
33/491 . . . . [by separating the blood components (G01N 15/05 takes precedence)]
33/4915 . . . . [using flow cells (flow cytometry G01N 15/14)]
33/492 . . . . [Determining multiple analytes]
33/4925 . . . . [measuring blood gas content, e.g. O₂, CO₂, HCO₃⁻]
33/493 . . . . urine

33/497 . . . . [of gaseous biological material, e.g. breath]
33/4972 . . . . [Determining alcohol content (for vehicle safety devices B60K 28/06)]
2033/4975 . . . . [other than oxygen, carbon dioxide or alcohol, e.g. organic vapours]
2033/4977 . . . . [metabolic gass from microbes, cell cultures, plant tissues and the like]
33/50 . . . . Chemical analysis of biological material, e.g. blood, urine; Testing involving biospecific ligand binding methods; Immunological testing (measuring or testing processes involving enzymes or microorganisms, compositions or test papers therefor; processes for forming such compositions, condition responsive control in microbiological or enzymological processes C12Q)

NOTES

1. In this group, the following expression is used according to the – G01N 33/98, the material or substances foreign to the organism, e.g. drugs or heavy metals (drugs by chemical analysis G01N 33/94), or in group C12N 9/00, according to the material as a determinant or reactant in a test for a different material.

2. In groups G01N 33/52 – G01N 33/98, the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the last appropriate place.

3. Documents relating to new peptides or new DNA or its corresponding mRNA, encoding for the peptides, and their use in measuring or testing processes are classified in subclass C07K or in group C12N 9/00 according to the peptides, with the appropriate indexing codes relating to their use in diagnostics. However, if the investigating or analysing aspects are of interest, the documents are classified in this group.

33/5002 . . . . [Partitioning blood components]
33/5005 . . . . [involving human or animal cells (immunoassay G01N 33/56966; immunoassays of protozoa G01N 33/56905; protozoa in screening assays C12Q 1/025)]
33/5008 . . . . [for testing or evaluating the effect of chemical or biological compounds, e.g. drugs, cosmetics]
33/5011 . . . . [for testing antineoplastic activity]
33/5014 . . . . [for testing toxicity]
33/5017 . . . . [for testing neoplastic activity]
33/502 . . . . [for testing non-proliferative effects]
33/5023 . . . . [on expression patterns]
33/5026 . . . . [on cell morphology]
33/5029 . . . . [on cell motility]
33/5032 . . . . [on intercellular interactions]
33/5035 . . . . [on sub-cellular localization]
33/5038 . . . . [involving detection of metabolites per se]
33/5041 . . . . [involving analysis of members of signalling pathways]
33/5044 . . . . [involving specific cell types]
33/5047 . . . . [Cells of the immune system]
33/505 . . . . [involving T-cells]
33/5052 . . . . [involving B-cells]
Immunoassay; Biospecific binding assay; haemoglobin or occult blood

G01N 33/72

labelled immunochemicals

G01N 33/58

elements

G01N 33/54386

multilayer analytical elements (immunological reagent paper {and including single- and fluorometric investigation, e.g. use of colorimetric, spectrophotometric or...}

screening assays

C12Q 1/025

phytoplankton and photosynthetic bacteria in{involving plant cells (immunoassays of unicellular algae, phytoplankton and photosynthetic bacteria in screening assays C12Q 1/025)}

Production of immunochemical test materials

for analytes not provided for elsewhere, e.g. immunological test procedures

Apparatus specially adapted for solid-phase systems

Improving reaction conditions or stability, e.g. by coating or irradiation of surface, by reduction of non-specific binding, by promotion of specific binding

the carrier being organic

Synthetic resin

as water suspendable particles

with antigen or antibody attached to the carrier via a bridging agent

Carbohydrates, e.g. dextran

Glass or silica

Metal or metal coated

the carrier being a biological cell or cell fragment, e.g. bacteria, yeast cells

Red blood cell

Fixed or stabilised red blood cell

using kinetic measurement, i.e. time rate of progress of an antigen-antibody interaction

using diffusion or migration of antigen or antibody

through a gel, e.g. Ouchterlony technique
NOTE

Groups G01N 33/33 - G01N 33/3576 take precedence over groups G01N 33/58 - G01N 33/98

33/574 . . . . . . for cancer

NOTE

In this group:

• relevant features relating to a specifically defined cancer are only classified in groups G01N 33/57407 - G01N 33/57449
• relevant features describing cancer markers related to multiple forms of cancer are classified in groups G01N 33/57484 - G01N 33/57496

33/57407 . . . . . . (Specifically defined cancers)
33/57411 . . . . . . . of cervix
33/57415 . . . . . . . of breast
33/57419 . . . . . . . of colon
33/57423 . . . . . . . of lung
33/57426 . . . . . . . of leukemia
33/5743 . . . . . . . of skin, e.g. melanoma
33/57434 . . . . . . . of prostate
33/57438 . . . . . . . of liver, pancreas or kidney
33/57442 . . . . . . . of the uterus and endometrial
33/57446 . . . . . . . of stomach or intestine
33/57449 . . . . . . . (of ovaries)
33/57469 . . . . . . . (involving tumor associated glycolinkage, i.e. TAG)
33/57473 . . . . . . . (involving carcinoembronic antigen, i.e. CEA)
33/57476 . . . . . . . (involving oncofetal proteins)
33/5748 . . . . . . . (involving onecogenic proteins)
33/57484 . . . . . . . (involving compounds serving as markers for tumor, cancer, neoplasia, e.g. cellular determinants, receptors, heat shock/stress proteins, A-protein, oligosaccharides, metabolites)
33/57488 . . . . . . . (involving compounds identifiable in body fluids)
33/57492 . . . . . . . (involving compounds localized on the membrane of tumor or cancer cells)
33/57496 . . . . . . . (involving intracellular compounds)
33/576 . . . . . . . for hepatits
33/5761 . . . . . . . (Hepatitis B)
33/5762 . . . . . . . (Hepatitis B core antigen)
33/5764 . . . . . . . (Hepatitis B surface antigen)
33/5765 . . . . . . . (Hepatitis delta antigen)
33/5767 . . . . . . . (non-A, non-B hepatits)
33/5768 . . . . . . . (Hepatitis A)
33/577 . . . . . . . involving monoclonal antibodies (binding reaction mechanisms characterised by the use of monoclonal antibodies; monoclonal antibodies per se are classified with their corresponding antigens; (G01N 33/53 - G01N 33/576 take precedence))
33/579 . . . . . . . involving limulus lysate

33/58 . . . . . . . involving labelled substances (G01N 33/53 takes precedence)
33/581 . . . . . . . (with enzyme label (including co-enzymes, co-factors, enzyme inhibitors or substrates))
33/582 . . . . . . . (with fluorescent label)
33/583 . . . . . . . (with non-fluorescent dye label)
33/585 . . . . . . . (with a particulate label, e.g. coloured latex)
33/586 . . . . . . . (Liposomes, microcapsules or cells)
33/587 . . . . . . . (Nanoparticles)
33/588 . . . . . . . (with semiconductor nanocrystal label, e.g. quantum dots)
33/60 . . . . . . . involving radioactive labelled substances
33/62 . . . . . . . involving urea
33/64 . . . . . . . involving ketones
33/66 . . . . . . . involving blood sugars, e.g. galactose
33/68 . . . . . . . involving proteins, peptides or amino acids (involving lipoproteins G01N 33/392)
33/6803 . . . . . . . (General methods of protein analysis not limited to specific proteins or families of proteins)
33/6806 . . . . . . . (Determination of free amino acids)
33/6809 . . . . . . . (involving fluorescent derivatizing reagents reacting non-specifically with all amino acids)
33/6812 . . . . . . . (Assays for specific amino acids)
hormones and growth factors } as growth factors, including receptors to intercellular protein regulatory factors such involving hormones \{ or other non-cytokine bilirubin \{ or other porphyrins; involving occult involving blood pigments, e.g. haemoglobin, \{ Erythropoetin \{ Steroid hormones \{ Bilirubin; including biliverdin \{ Haemoglobin \{ Glycosylated haemoglobin \{ using peroxidative activity \{ Devices \{ Bilirubin; including biliverdin \{ involving hormones \{ or other non-cytokine intercellular protein regulatory factors such as growth factors, including receptors to hormones and growth factors \{ Steroid hormones \{ Erythropoetin \} Human choric gonadotropin \{ including luteinising hormone, follicle stimulating hormone, thyroid stimulating hormone or their receptors \} Thyroid gland hormones \{ e.g. T3, T4, TBH, TBG or their receptors \} involving blood groups or blood types \{ or red blood cells (white blood cells \} involving vitamins \{ or their receptors \} involving inorganic compounds or pH involving blood coagulating time \{ or factors, or their receptors \} involving prostaglandins \{ or their receptors \} involving iron binding capacity of blood involving lipids, e.g. cholesterol \{, lipoproteins, or their receptors (steroid hormones \} involving narcotics \{ or drugs or pharmaceuticals, neurotransmitters or associated receptors \} [Neurotransmitters] \{ Dopamine] \{ Serotonin, i.e. 5-hydroxy-tryptamine \} \{ GABA, i.e. gamma-amino-butryate \} \{ (Nor)adrenaline \} \{ Acetylcholine \} \{ Antibacterial\} \{ Cardioregulators, e.g. antihypotensives, antiarrhythmics \} \{ CNS-stimulants, e.g. cocaine, amphetamines \} \{ Antidepressants \} \{ Anticonvulsants, e.g. phenobarbitol, phenytoin \} \{ Sedatives, e.g. cannabinoids, barbiturates (opiates \} \{ Analgesics, e.g. opiates, aspirine \} \{ Immunosuppressants \} \{ involving blood or serum control standard \} \{ involving alcohol, e.g. ethanol in breath \} NOTE In groups G01N 35/00 - G01N 35/085, the indexing codes of G01N are added
{ Control arrangements for automatic analysers }

{ Separating and mixing arrangements }

{ Heating or cooling arrangements }

{ Special arrangements of analysers }

{ Stationary mixing elements }

{ Centrifuges }

{ Filters }

{ Controlling humidity in analyser }

{ Refrigerated reagent storage }

{ Conductive heating, e.g. heated plates }

{ where the fluid is a liquid }

{ Microwaves }

{ Other radiation }

{ Heating or cooling means associated with pipettes or the like, e.g. for supplying sample/ reagent at given temperature }

{ [Separating and mixing arrangements] }

{ Filters }

{ [combined with sample carriers] }

{ Centrifuges }

{ [combined with carousels] }

{ Stationary mixing elements }

{ Mixing by agitating sample carrier }

{ Mixing by a special element, e.g. stirrer }

{ [using fluid flow] }

{ [using ultrasound] }

{ Handling or washing solid phase elements, e.g. beads }

{ Means for distributing beads }

{ Control arrangements for automatic analysers }

{ Quality control, including calibration or testing of components of the analyser }

{ Reinspection of samples }

{ [Quality control] }

{ [of instruments] }

{ [logging process history of individual samples] }

{ [detecting malfunctions in conveying systems] }

{ [statistical methods comparing labs or apparatuses] }

{ [of consumables] }

{ [of reagents] }

{ [of detectors] }

{ [Calibration] }

{ [Curve-fitting; Parameter matching; Calibration constants] }

{ [Automatic status testing, e.g. at start-up or periodic] }

{ [Communications; Identification] }

{ [Identification of carriers, materials or components in automatic analysers] }

{ [Type of codes] }

{ [bar codes] }

{ [magnetic code] }

{ [mechanical or optical code other than bar code] }

{ [reprogrammable code] }

{ [Type of components bearing the codes, other than sample carriers] }

{ [Holders for sample carriers, e.g. trays, caroussel, racks] }

{ [consumable or exchangeable components other than sample carriers, e.g. detectors, flow cells] }

{ [nature of coded information] }

{ [identification of the sample, e.g. patient identity, place of sampling] }

{ [results of the analyses] }

{ [process control parameters] }

{ [printing and sticking of identifiers] }

{ [Communications between instruments or with remote terminals] }

{ [network configurations] }

{ [Displaying information to the operator] }

{ [alarms, e.g. audible] }

{ [GUI [graphical user interfaces]] }

{ [Scheduling] }

{ [random access not determined by physical position] }

{ [optimisation; experiment design] }

{ [introducing urgent samples with priority, e.g. Short Turn Around Time Samples [STATS]] }

{ [post analysis management of samples] }

{ [marking, removing, storing] }

{ [detecting malfunctions in conveying systems] }

{ [monitoring reactions as a function of time] }

{ [comprising robots or similar manipulators (robots per se B25J)] }
using a plurality of sample containers moved by a conveyor system past one or more treatment or analysis stations

having a flexible chain, e.g., "cartridge belt", conveyor for reaction cells or cuvettes

forming cuvettes in situ, e.g. from plastic strip

having a carousel or turntable for reaction cells or cuvettes

having blocks or racks of reaction cells or cuvettes

having reaction cells in the form of microtitration plates

Details of the conveyor system

Sample carriers, cuvettes or reaction vessels

Sample carriers with closing or sealing means

manipulating closing or opening means, e.g., stoppers, screw caps, lids or covers

Individual bottles or tubes

connected in a flexible chain

lifting items out of a rack for access

Block or rack elements with a single row of samples

moving in one dimension

moving in two dimensions in a horizontal plane

forming an endless chain in a vertical plane

Plate elements with several rows of samples

moved independently, e.g. by fork manipulator

carried on a linear conveyor

Two or more linear conveyors

Stacks, magazines or elevators for plates

nestable or stockable

Sample carriers adapted for special purposes

characterised by material of construction

integrated with measuring devices

in the form of a syringe or pipette tip

with pre-packaged reagents, i.e. test-packs

Cleaning cuvettes or reaction vessels

Rotary sample carriers, i.e. carousels

for samples

for reagents

for cuvettes or reaction vessels

Combinations of the above

composed of interchangeable ring elements

using centrifugal transport of liquid

composed of interchangeable sectors

Multiple carousels working in parallel

Coaxial carousels

Spiral tracks

Multiple concentric rows of wells

General conveyor features

Buffers [FIFO] or stacks [LIFO] for holding carriers between operations

{ in incubators

{ Loading or unloading the conveyor

{ Switching points ("aiguillages")

{ converging, e.g. selecting carriers from multiple incoming streams

{ diverging, e.g. sending carriers to different analysers

{ for selective recirculation of carriers

{ Details of actuating means for conveyors or pipettes

{ electric, e.g. stepper motor, solenoid

{ Magnetic

{ hydraulic or pneumatic

{ Pneumatic tube conveyors; Tube mails; "Rohrpost"

{ Transmission

{ Belt or chain

{ Gearing, cams

{ Helix or lead screw

{ Self-propelled units

{ Position sensing, encoding; closed-loop control

{ Locating samples; identifying different tube sizes

{ Detecting or compensating pionising errors

{ Other details

{ Drawers used as storage or dispensing means for vessels or cuvettes

using a stream of discrete samples flowing along a tube system, e.g. flow injection analysis

{ Flow Injection Analysis

Devices for transferring samples [or any liquids] to, in, or from, the analysis apparatus, e.g. suction devices, injection devices

Reagent dispensers

Cleaning sample transfer devices

Rinsing only the inside of the tip

Characterised by arrangements for controlling the aspiration or dispense of liquids

Control of the position or alignment of the transfer device

Confirming presence of tip

Control of the volume dispensed or introduced

Detecting inhomogeneities, e.g. foam, bubbles, clots

Preventing or detecting loss of fluid by dripping

using a valve in the tip or nozzle

Fluid level sensing

General features of the devices

using disposable tips

Dilution or aliquoting

Transferring microquantities of liquid

Using surface tension, e.g. pins or wires

Micropipettes, e.g. microcapillary tubes

Ink-jet like dispensers

Using pneumatic means

Levitated, suspended drops

using the transfer device for another function
G01N

2035/1051 . . . . . [for transporting containers, e.g. retained by friction]
2035/1053 . . . . . [for separating part of the liquid, e.g. filters, extraction phase]
2035/1055 . . . . . [for immobilising reagents, e.g. dried reagents]
2035/1058 . . . . . [for mixing]
2035/106 . . . . . [by sucking and blowing]
2035/1062 . . . . . [for testing the liquid while it is in the transfer device]
35/1065 . . . . . [Multiple transfer devices]
35/1067 . . . . . [for transfer to or from containers having different spacing]
2035/1069 . . . . . [by adjusting the spacing between multiple probes of a single transferring head]
35/1072 . . . . . [with provision for selective pipetting of individual channels]
35/1074 . . . . . [arranged in a two-dimensional array]
2035/1076 . . . . . [plurality or independently movable heads]
35/1079 . . . . . [with means for piercing stoppers or septums]
35/1081 . . . . . [characterised by the means for relatively moving the transfer device and the containers in an horizontal plane (G01N 35/1011 takes precedence)]
35/1083 . . . . . [with one horizontal degree of freedom]
2035/1086 . . . . . [Cylindrical, e.g. variable angle]
2035/1088 . . . . . [Coaxial with a carousel]
35/109 . . . . . [with two horizontal degrees of freedom]
2035/1093 . . . . . [Cylindrical, e.g. variable radius and angle]
35/1095 . . . . . [for supplying the samples to flow-through analysers (for a specific analyser see relevant groups, e.g. under G01N 15/00, G01N 21/00, G01N 27/00, G01N 30/00, H01J 49/00)]
35/1097 . . . . . [characterised by the valves (valves in general F16K)]

37/00 Details not covered by any other group of this subclass
37/005 . . . . . [Measurement methods not based on established scientific theories]

2201/00 Features of devices classified in G01N 21/00
2201/02 Mechanical
2201/021 . . . . . Special mounting in general
2201/0212 . . . . . Liquid borne; swimming apparatus
2201/0214 . . . . . Airborne
2201/0216 . . . . . Vehicle borne
2201/0218 . . . . . Submersible, submarine
2201/022 . . . . . Casings
2201/0221 . . . . . Portable; cableless; compact; hand-held
2201/0222 . . . . . Pocket size
2201/0224 . . . . . Pivoting casing
2201/0225 . . . . . Part of casing being slidable, telescopic
2201/0227 . . . . . Sealable enclosure
2201/0228 . . . . . Moulded parts
2201/023 . . . . . Controlling conditions in casing
2201/0231 . . . . . Thermostating
2201/0233 . . . . . Gas purge
2201/0235 . . . . . with gas filters in casing
2201/0236 . . . . . Explosion proof
2201/0238 . . . . . Moisture monitoring or controlling
2201/024 . . . . . Modular construction
2201/0245 . . . . . with insertable-removable part
2201/025 . . . . . Mechanical control of operations
2201/0253 . . . . . Switches mounted at the casing
2201/0256 . . . . . Sensor for insertion of sample, cuvette, test strip
2201/026 . . . . . Batch operation; multisample devices
2201/02047 . . . . . with multiple optical units, e.g. one per sample
2201/02145 . . . . . Carrusel, sequential
2201/021423 . . . . . with rotating optics
2201/02143 . . . . . optics constituted by optical fibre multiplex selector
2201/021438 . . . . . Linear motion, sequential
2201/021446 . . . . . Multicell plate, sequential
2201/021453 . . . . . Multicell sequential and multitest, e.g. multiwavelength
2201/021461 . . . . . Simultaneous, e.g. video imaging
2201/021469 . . . . . One cell, sequential, e.g. successive samples
2201/021476 . . . . . Keyboard controlled, e.g. for plural analysis at one sample, channel selection, coding
2201/021484 . . . . . Computer controlled
2201/021492 . . . . . Automatised microscope
2201/0216 . . . . . Illumination; Optics
2201/02161 . . . . . Sources
2201/0216106 . . . . . Plural sources used for calibration
2201/0216113 . . . . . Coherent sources; lasers
2201/021612 . . . . . Laser diodes
2201/0216126 . . . . . Large diffuse sources
2201/0216133 . . . . . Light tables
2201/021614 . . . . . Diffusing light tube with sample within
2201/0216146 . . . . . Multisources for homogenisation, as well sequential as simultaneous operation
2201/0216153 . . . . . the sources being LED's
2201/021616 . . . . . Ambient light is used
2201/0216166 . . . . . Line selective sources
2201/0216173 . . . . . IR sources from heated molecular species
2201/021618 . . . . . Halogene sources
2201/0216186 . . . . . Resistance heated; wire sources; lamelle sources
2201/0216193 . . . . . Secondary in-situ sources, e.g. fluorescent particles
2201/02162 . . . . . LED's
2201/021621 . . . . . Supply
2201/021622 . . . . . Use of a compensation LED
2201/021623 . . . . . Use of a reference LED
2201/021624 . . . . . Compensating variation in output of LED source
2201/021625 . . . . . Modulated LED
2201/021626 . . . . . Use of several LED's for spatial resolution
2201/021627 . . . . . Use of several LED's for spectral resolution
2201/021628 . . . . . Organic LED [OLED]
2201/02163 . . . . . Illuminating optical parts
2201/021631 . . . . . Homogeneising elements
2201/021632 . . . . . homogeneising by integrating sphere
2201/021633 . . . . . Directed, collimated illumination
2201/021634 . . . . . Diffuse illumination
2201/021635 . . . . . Structured illumination, e.g. with grating
2201/021636 . . . . . Reflectors
2201/021637 . . . . . Elliptic
2201/021638 . . . . . Refractive parts
2201/021639 . . . . . Sphere lens
2201/02164 . . . . . Stray light conditioning
2201/021642 . . . . . Light traps; baffles
2201/021644 . . . . . Simple baffled tube construction
G01N

2201/0646 . . . Light seals
2201/0648 . . . Shutters
2201/065 . . . Integrating spheres
2201/0655 . . . Hemispheres
2201/066 . . . Modifiable path; multiple paths in one sample
2201/0662 . . . Comparing measurements on two or more paths in one sample
2201/0664 . . . Using two ways, i.e. two devices in same path in one sample
2201/0666 . . . Selectable paths; insertable multiple sources
2201/0668 . . . Multiple paths; optimisable path length
2201/067 . . . Electro-optic, magneto-optic, acousto-optic elements
2201/0675 . . . SLM
2201/068 . . . Optics, miscellaneous
2201/0683 . . . Brewster plate; polarisation controlling elements
2201/0686 . . . Cold filter; IR filter
2201/069 . . . Supply of sources
2201/0691 . . . Modulated (not pulsed supply)
2201/0692 . . . Regulated sources; stabilised supply
2201/0693 . . . Battery powered circuitry
2201/0694 . . . Microprocessor controlled supply
2201/0695 . . . Supply to maintain constant beam intensity
2201/0696 . . . Pulsed
2201/0697 . . . Pulsed lasers
2201/0698 . . . Using reference pulsed source
2201/0699 . . . Randomly pulsed source
2201/08 . . . Optical fibres; light guides
2201/0806 . . . Light rod
2201/0813 . . . Arrangement of collimator tubes, glass or empty
2201/082 . . . Fibres for a reference path
2201/0826 . . . Fibre array at source, distributing
2201/0833 . . . Fibre array at detector, resolving
2201/084 . . . Fibres for remote transmission
2201/0846 . . . Fibre interface with sample, e.g. for spatial resolution
2201/0853 . . . Movable fibre optical member, e.g. for scanning or selecting
2201/086 . . . Modular construction, e.g. disconnectable fibre parts
2201/0866 . . . Use of GRIN elements
2201/0873 . . . Using optically integrated constructions
2201/088 . . . Using a sensor fibre
2201/0886 . . . and using OTDR
2201/0893 . . . Using fibres for resolution in time
2201/10 . . . Scanning
2201/101 . . . Scanning measuring head
2201/102 . . . Video camera
2201/103 . . . Scanning by mechanical motion of stage
2201/1035 . . . 3D motion
2201/104 . . . Mechano-optical scan, i.e. object and beam moving
2201/1042 . . . X, Y scan, i.e. object moving in X, beam in Y
2201/1045 . . . Spiral scan
2201/1047 . . . with rotating optics and moving stage
2201/105 . . . Purely optical scan
2201/1053 . . . System of scan mirrors for composite motion of beam
2201/1056 . . . Prism scan, diasporameter
2201/106 . . . Acousto-optical scan
2201/107 . . . CRT flying spot scan
2201/108 . . . Miscellaneous
2201/1082 . . . Descanning
2201/1085 . . . Using optical fibre array and scanner
2201/1087 . . . Focussed scan beam, e.g. laser
2201/11 . . . Monitoring and controlling the scan
2201/112 . . . Grating pulse time encoder
2201/115 . . . Optical equalisation of scan intensity
2201/117 . . . Indexed, memorised or programmed scan
2201/12 . . . Circuits of general importance; Signal processing
2201/121 . . . Correction signals
2201/1211 . . . for temperature
2201/1212 . . . and switch-off from upwarming
2201/1214 . . . for humidity
2201/1215 . . . for interfering gases
2201/1217 . . . for index of solution, carrying fluids
2201/1218 . . . for pressure variations
2201/122 . . . Kinetic analysis; determining reaction rate
2201/1222 . . . Endpoint determination; reaction time determination
2201/1224 . . . Polymisation
2201/1226 . . . Relaxation methods, e.g. temperature jump, field jump
2201/1228 . . . Reading time being controlled, e.g. by microprocessor
2201/123 . . . Conversion circuit
2201/1232 . . . Log representation, e.g. for low transmittance
2201/1235 . . . Measuring or displaying selectively absorbance or density
2201/1237 . . . Measuring extrema
2201/124 . . . Sensitivity
2201/1241 . . . Multirange
2201/1242 . . . Validating, e.g. range invalidation, suspending operation
2201/1244 . . . Ambient light detector, e.g. for invalidating
2201/1245 . . . Averaging several measurements
2201/1247 . . . Thresholding
2201/1248 . . . Validating from signal shape, slope, peak
2201/125 . . . Digital circuitry
2201/126 . . . Microprocessor processing
2201/1263 . . . Microprocessor is used as variant to separate part circuits
2201/1266 . . . Interface card
2201/127 . . . Calibration; base line adjustment; drift compensation
2201/12707 . . . Pre-test of apparatus, e.g. dark test, sensor test
2201/12715 . . . Zero adjustment, i.e. to verify calibration
2201/12723 . . . Self check capacity; automatic, periodic step of checking
2201/1273 . . . Check triggered by sensing conditions, e.g. ambient changes
2201/12738 . . . Selectively initiating check
2201/12746 . . . Calibration values determination
2201/12753 . . . and storage
2201/12761 . . . Precalibration, e.g. for a given series of reagents
2201/12769 . . . and adjusting controls, e.g. zero and 100 %
2201/12776 . . . Automatic scaling up
2201/12784 . . . Base line obtained from computation, histogram
2201/12792 . . . Compensating own radiation in apparatus
2201/128 . . . Alternating sample and standard or reference part in one path
### 2203/00 Investigating strength properties of solid materials by application of mechanical stress

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2203/001</td>
<td>Type of application of the stress</td>
</tr>
<tr>
<td>2203/002</td>
<td>Steady</td>
</tr>
<tr>
<td>2203/003</td>
<td>Repeated or cyclic</td>
</tr>
<tr>
<td>2203/004</td>
<td>Low frequencies up to 100 Hz</td>
</tr>
<tr>
<td>2203/005</td>
<td>High frequencies from 10 000 Hz</td>
</tr>
<tr>
<td>2203/006</td>
<td>Impulsive</td>
</tr>
<tr>
<td>2203/007</td>
<td>Constant speed test</td>
</tr>
<tr>
<td>2203/008</td>
<td>Force of applied</td>
</tr>
<tr>
<td>2203/009</td>
<td>Tensile or compressive</td>
</tr>
<tr>
<td>2203/010</td>
<td>Compressive</td>
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<tr>
<td>2203/011</td>
<td>Torsional</td>
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<tr>
<td>2203/012</td>
<td>Bending</td>
</tr>
<tr>
<td>2203/013</td>
<td>Shearing</td>
</tr>
<tr>
<td>2203/014</td>
<td>Combination of several types of applied forces</td>
</tr>
<tr>
<td>2203/015</td>
<td>Rotation and bending</td>
</tr>
<tr>
<td>2203/016</td>
<td>Generation of the force</td>
</tr>
<tr>
<td>2203/017</td>
<td>using mechanical means</td>
</tr>
<tr>
<td>2203/018</td>
<td>Weight</td>
</tr>
<tr>
<td>2203/019</td>
<td>Spring</td>
</tr>
<tr>
<td>2203/020</td>
<td>involving a rotating movement, e.g. gear, cam, eccentric, or centrifuge effects</td>
</tr>
<tr>
<td>2203/021</td>
<td>Hammer or pendulum</td>
</tr>
<tr>
<td>2203/022</td>
<td>Human or animal power</td>
</tr>
<tr>
<td>2203/023</td>
<td>Pneumatic or hydraulic means</td>
</tr>
<tr>
<td>2203/024</td>
<td>Pneumatic means</td>
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<tr>
<td>2203/025</td>
<td>Vacuum</td>
</tr>
<tr>
<td>2203/026</td>
<td>Hydraulic means</td>
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<tr>
<td>2203/027</td>
<td>Electromagnetic means</td>
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<tr>
<td>2203/028</td>
<td>Piezoelectric means</td>
</tr>
<tr>
<td>2203/029</td>
<td>Cutting or drilling tools</td>
</tr>
<tr>
<td>2203/030</td>
<td>using mechanical waves, e.g. acoustic</td>
</tr>
<tr>
<td>2203/031</td>
<td>using stresses due to heating, e.g. conductive heating, radiative heating</td>
</tr>
<tr>
<td>2203/032</td>
<td>Kind of property studied</td>
</tr>
<tr>
<td>2203/033</td>
<td>Crack, flaws, fracture or rupture</td>
</tr>
<tr>
<td>2203/034</td>
<td>Crack or flaws</td>
</tr>
<tr>
<td>2203/035</td>
<td>Initiation of crack</td>
</tr>
<tr>
<td>2203/036</td>
<td>Propagation of crack</td>
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<tr>
<td>2203/037</td>
<td>Fracture or rupture</td>
</tr>
<tr>
<td>2203/038</td>
<td>Fatigue, creep, stress-stress relations or elastic constants</td>
</tr>
<tr>
<td>2203/039</td>
<td>Creep</td>
</tr>
<tr>
<td>2203/040</td>
<td>Fatigue</td>
</tr>
<tr>
<td>2203/041</td>
<td>Strain-stress relations or elastic constants</td>
</tr>
<tr>
<td>2203/042</td>
<td>Hardness, compressibility or resistance to crushing</td>
</tr>
<tr>
<td>2203/043</td>
<td>using indentation</td>
</tr>
<tr>
<td>2203/044</td>
<td>Residual indentation measurement</td>
</tr>
</tbody>
</table>
2223/0276 . . . . . . Spherical specimens
2223/0278 . . . . . . Thin specimens
2223/028 . . . . . . . . One dimensional, e.g. filaments, wires, ropes or cables
2223/0282 . . . . . . . . Two dimensional, e.g. tapes, webs, sheets, strips, disks or membranes
2223/0284 . . . . . . Bulk material, e.g. powders
2223/0286 . . . . . . Miniature specimen; Testing on microregions of a specimen
2223/0288 . . . . . . Springs
2223/029 . . . . . . Leaf spring
2223/0292 . . . . . . Coil spring
2223/0294 . . . . . . Airs-spring, air bag spring or bellows
2223/0296 . . . . . . Welds
2223/0298 . . . . . . Manufacturing or preparing specimens
2223/04 . . . . . . . Chucks, fixtures, jaws, holders or anvils
2223/0405 . . . . . . . . Features allowing alignment between specimen and chucks
2223/0411 . . . . . . using pneumatic or hydraulic pressure
2223/0417 . . . . . . using vacuum
2223/0423 . . . . . . using screws
2223/0429 . . . . . . using adhesive bond; Gluing
2223/0435 . . . . . . modifying the type of the force applied, e.g. the chuck transforms a compressive machine for applying a bending test
2223/0441 . . . . . . with dampers or shock absorbing means
2223/0447 . . . . . . Holders for quick insertion/removal of test pieces
2223/0452 . . . . . . Cushioning layer between test piece and grip
2223/0458 . . . . . . characterised by their material
2223/0464 . . . . . . with provisions for testing more than one specimen at the time
2223/047 . . . . . . in series
2223/0476 . . . . . . in parallel
2223/0482 . . . . . . comprising sensing means
2223/0488 . . . . . . Diamond anvil cells
2223/0494 . . . . . . Clamping ring, “whole periphery” clamping
2223/06 . . . . . . Indicating or recording means; Sensing means
2223/0605 . . . . . . Mechanical indicating, recording or sensing means
2223/0611 . . . . . . Hydraulic or pneumatic indicating, recording or sensing means
2223/0617 . . . . . . Electrical or magnetic indicating, recording or sensing means
2223/0623 . . . . . . using piezo-electric gauges
2223/0629 . . . . . . using thin films, paintings
2223/0635 . . . . . . using magnetic properties
2223/0641 . . . . . . using optical, X-ray, ultra-violet, infrared or similar detectors
2223/0647 . . . . . . Image analysis
2223/0652 . . . . . . using contrasting ink, painting, staining
2223/0658 . . . . . . using acoustic or ultrasonic detectors
2223/0664 . . . . . . using witness specimens
2223/067 . . . . . . Parameter measured for estimating the property
2223/0676 . . . . . . Force, weight, load, energy, speed or acceleration
2223/0682 . . . . . . Spatial dimension, e.g. length, area, angle
2223/0688 . . . . . . Time or frequency
2223/0694 . . . . . . Temperature

2223/00 Investigating materials by wave or particle radiation

2223/03 . . . . . . . . by radioactivity, nuclear decay
2223/04 . . . . . . . . and measuring absorption
2223/041 . . . . . . . . X-ray absorption fine structure [EXAFS]
2223/043 . . . . . . . . gamma ray resonance absorption (Mossbauer effect)
2223/045 . . . . . . . . combination of at least 2 measurements (transmission and scatter)
2223/05 . . . . . . . . by diffraction, scatter or reflection
2223/051 . . . . . . . . correcting for scatter
2223/052 . . . . . . . . reflection
2223/053 . . . . . . . . back scatter
2223/054 . . . . . . . . small angle scatter
2223/055 . . . . . . . . scatter raster collimator
2223/056 . . . . . . . . diffraction
2223/0561 . . . . . . . . diffraction cameras
2223/0563 . . . . . . . . measure of energy-dispersion spectrum of diffracted radiation
2223/0565 . . . . . . . . diffraction of electrons, e.g. LEED
2223/0566 . . . . . . . . analysing diffraction pattern
2223/0568 . . . . . . . . spectro-diffraclometry
2223/063 . . . . . . . . inelastic scatter, e.g. Compton effect
2223/064 . . . . . . . . interference of radiation, e.g. Borrmann effect
2223/07 . . . . . . . . secondary emission
2223/071 . . . . . . . . combination of measurements, at least 1 secondary emission
2223/072 . . . . . . . . combination of measurements, 2 kinds of secondary emission
2223/073 . . . . . . . . use of a laser
2223/074 . . . . . . . . activation analysis
2223/0745 . . . . . . . . neutron-gamma activation analysis
2223/076 . . . . . . . . X-ray fluorescence
2223/0763 . . . . . . . . Compton background correcting
2223/0766 . . . . . . . . X-ray fluorescence with indicator, tags
2223/079 . . . . . . . . incident electron beam and measuring excited X-rays
2223/08 . . . . . . . . incident electron beam and measuring cathode luminescence (U.V.)
2223/081 . . . . . . . . incident ion beam, e.g. proton
2223/0813 . . . . . . . . incident ion beam and measuring X-rays [PIXE]
2223/0816 . . . . . . . . incident ion beam and measuring secondary ion beam [SIMS]
2223/084 . . . . . . . . photo-electric effect
2223/085 . . . . . . . . photo-electron spectrum [ESCA, XPS]
2223/086 . . . . . . . . Auger electrons
2223/089 . . . . . . . . exo-electron emission
2223/095 . . . . . . . . tribo-emission
2223/10 . . . . . . . . Different kinds of radiation or particles
2223/1003 . . . . . . . . monochromatic
2223/1006 . . . . . . . . different radiations, e.g. X and alpha
2223/101 . . . . . . . . electromagnetic radiation
2223/1013 . . . . . . . . gamma
2223/1016 . . . . . . . . X-ray
2223/102 . . . . . . . . beta or electrons
2223/104 . . . . . . . . ions
2223/1045 . . . . . . . . alpha
2223/105 . . . . . . . . molecular or atomic beams
2223/106 . . . . . . . . neutrons
2223/1063 . . . . . . . . fast
2223/1065 . . . . . . . . thermal
2223/107 . . . . . . . . protons
2223/108 . . . . . . . . positrons; electron-positron annihilation
2223/11    . neutrino
2223/20    . Sources of radiation
2223/201   . betatron
2223/202   . isotopes
2223/203   . synchrotron
2223/204   . source created from radiated target
2223/205   . natural source
2223/206   . sources operating at different energy levels
2223/30    . Accessories, mechanical or electrical features
2223/301   . portable apparatus
2223/302   . comparative arrangements
2223/303   . calibrating, standardising
2223/3032  . periodic calibration, e.g. with filter wheel
2223/3035  . phantom
2223/3037  . standards (constitution)
2223/304   . electric circuits, signal processing
2223/305   . computer simulations
2223/306   . computer control
2223/307   . cuvettes-sample holders
2223/3075  . correcting for the properties of the container, e.g. empty
2223/308   . support of radiation source
2223/309   . support of sample holder
2223/31    . temperature control
2223/3103  . cooling, cryostats
2223/3106  . heating, furnaces
2223/311   . high pressure testing, anvil cells
2223/312   . powder preparation
2223/313   . filters, rotating filter disc
2223/314   . chopper
2223/315   . monochromators
2223/316   . collimators
2223/317   . windows
2223/318   . protective films
2223/319   . using opaque penetrant medium
2223/32    . adjustments of elements during operation
2223/321   . manipulator for positioning a part
2223/322   . immerged detecting head
2223/323   . irradiation range monitor, e.g. light beam
2223/33    . scanning, i.e. relative motion for measurement of successive object-parts
2223/3301  . beam is modified for scan, e.g. moving collimator
2223/3302  . object and detector fixed
2223/3303  . object fixed; source and detector move
2223/3304  . helicoidal scan
2223/3305  . detector fixed; source and body moving
2223/3306  . object rotates
2223/3307  . source and detector fixed; object moves
2223/3308  . object translates
2223/331   . rocking curve analysis
2223/3335  . electronic scanning
2223/34    . sensing means for gap between source and detector
2223/345   . mathematical transformations on beams or signals, e.g. Fourier
2223/348   . ellipsoidal collector
2223/351   . prohibiting charge accumulation on sample substrate
2223/40    . Imaging
2223/401   . image processing
2223/402   . mapping distribution of elements
2223/403   . mapping with false colours
2223/404   . contrast medium
2223/405   . mapping of a material property
2223/406   . fluoroscopic image
2223/407   . stimulable phosphor sheet
2223/408   . display on monitor
2223/409   . embedding or impregnating the object
2223/41    . imaging specifically internal structure
2223/411   . tv imaging from fluorescent screen
2223/412   . use of image converter tube [PMT]
2223/413   . sensor array [CCD]
2223/414   . stereoscopic system
2223/415   . radiographic film
2223/416   . wrap around
2223/417   . recording with co-ordinate markings
2223/418   . electron microscope
2223/419   . computed tomograph
2223/42    . image digitised, enhanced in an image processor
2223/421   . digitised image, analysed in real time (recognition algorithms)
2223/422   . windows within the image
2223/423   . multispectral imaging-multiple energy imaging
2223/424   . energy subraction image processing (dual energy processing)
2223/425   . temporal (time difference) subraction processing
2223/426   . image comparing, unknown with known substance
2223/427   . stepped imaging (selected area of sample is changed)
2223/50    . Detectors
2223/501   . array
2223/5015  . linear array
2223/502   . ionisation chamber
2223/503   . auxiliary reference detector
2223/504   . pin-diode
2223/505   . scintillation
2223/5055  . scintillation crystal coupled to PMT
2223/506   . time-of-flight
2223/507   . secondary-emission detector
2223/508   . photo-acoustic
2223/509   . infra-red
2223/60    . Specific applications or type of materials
2223/601   . density profile
2223/602   . crystal growth
2223/603   . superlattices
2223/604   . monocrystal
2223/605   . phases
2223/606   . texture
2223/607   . strain
2223/608   . superconductors
2223/61    . thin films, coatings
2223/611   . patterned objects; electronic devices
2223/6113  . printed circuit board [PCB]
2223/6116  . semiconductor wafer
2223/612   . biological material
2223/6123  . bone mineral
2223/6126  . tissue
2223/613   . moisture
2223/614   . road surface
2223/615   . composite materials, multilayer laminates
2223/616   . earth materials
Indexing codes associated with group G01N 29/00

G01N 29/00 . . . . . . Indexing codes associated with the analysed material

G01N 29/01 . . . . . . Velocity or travel time

G01N 29/02 . . . . . . Indexing codes associated with the analysing material

G01N 29/03 . . . . . . Indexing codes associated with the measuring variable

G01N 29/04 . . . . . . Wave modes and trajectories

G01N 29/05 . . . . . . Wave modes

G01N 29/06 . . . . . . Longitudinal waves

G01N 29/07 . . . . . . Shear waves, transverse waves, horizontally polarised waves

G01N 29/08 . . . . . . Surface waves, e.g. Rayleigh waves, Love waves

G01N 29/09 . . . . . . Parallel to the surface, e.g. creep waves

G01N 29/10 . . . . . . Bulk waves, e.g. quartz crystal microbalance, torsional waves

G01N 29/11 . . . . . . Flexural waves, plate waves, e.g. Lamb waves, tuning fork, cantilever

G01N 29/12 . . . . . . Mode conversion

G01N 29/13 . . . . . . Complex trajectories

G01N 29/14 . . . . . . Indexing codes associated with the measuring variable

G01N 29/15 . . . . . . Indexing codes associated with the analysing material

G01N 29/16 . . . . . . Indexing codes associated with the analysed material
**2333/00** Assays involving biological materials from specific organisms or of a specific nature

**NOTE**
In groups G01N 2333/47 - G01N 2333/094 indexing codes are assigned according to the chemical nature of the materials irrespective of the source organism.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>2333</td>
<td>. . . by chemical synthesis</td>
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<tr>
<td>2333</td>
<td>. . . of Peptide-nucleic acids (PNAs)</td>
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<tr>
<td>2333</td>
<td>. . . from viruses</td>
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<tr>
<td>2333</td>
<td>. . . DNA viruses</td>
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<tr>
<td>2333</td>
<td>. . . Paroviridae, e.g. feline panleukopenia virus, human Parovirus</td>
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<tr>
<td>2333</td>
<td>. . . Hepadnaviridae, e.g. hepatitis B virus</td>
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<tr>
<td>2333</td>
<td>. . . Papovaviridae, e.g. papillomavirus, polyomavirus, SV40, BK virus, JC virus</td>
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<tr>
<td>2333</td>
<td>. . . Herpetoviridae, e.g. pseudorabies virus</td>
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<tr>
<td>2333</td>
<td>. . . Pseudorabies virus, i.e. Aujeszky virus</td>
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<tr>
<td>2333</td>
<td>. . . Herpes simplex virus I or II</td>
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</tbody>
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**G01N**

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<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>2333</td>
<td>. . . Varicella-zoster virus</td>
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<td>2333</td>
<td>. . . Cytomegalovirus</td>
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<td>2333</td>
<td>. . . Epstein-Barr virus</td>
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<tr>
<td>2333</td>
<td>. . . Marek's disease virus</td>
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<tr>
<td>2333</td>
<td>. . . Infectious bovine rhinotracheitis virus</td>
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<tr>
<td>2333</td>
<td>. . . Poxviridae, e.g. avipoxvirus</td>
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<tr>
<td>2333</td>
<td>. . . Vaccinia virus; Variola virus</td>
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<tr>
<td>2333</td>
<td>. . . Adenoviridae</td>
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<tr>
<td>2333</td>
<td>. . . RNA viruses</td>
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<tr>
<td>2333</td>
<td>. . . Picornaviridae, e.g. coxsackie virus, echovirus, enterovirus</td>
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<td>2333</td>
<td>. . . Foot-and-mouth disease virus</td>
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<td>2333</td>
<td>. . . Rhinovirus</td>
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<td>2333</td>
<td>. . . Hepatitis A virus</td>
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<td>2333</td>
<td>. . . Poliovirus</td>
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<td>2333</td>
<td>. . . Orthomyxoviridae, e.g. influenza virus</td>
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<td>2333</td>
<td>. . . Paramyxoviridae, e.g. param influenza virus</td>
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<tr>
<td>2333</td>
<td>. . . Mumps virus; Measles virus</td>
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<td>2333</td>
<td>. . . Newcastle disease virus</td>
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<td>2333</td>
<td>. . . Canine distemper virus</td>
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<td>2333</td>
<td>. . . Respiratory syncytial virus</td>
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<td>2333</td>
<td>. . . Reoviridae, e.g. rotavirus, bluetongue virus, Colorado tick fever virus</td>
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<td>2333</td>
<td>. . . Rhabdoviridae, e.g. rabies virus, Duvenhage virus, Mokda virus, vesicular stomatitis virus</td>
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<td>2333</td>
<td>. . . Retroviridae, e.g. bovine leukemia virus, feline leukemia virus, feline leukaemia virus, human T-cell leukemia-lymphoma virus</td>
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<td>2333</td>
<td>. . . Lentiviridae, e.g. visna-maedi virus, equine infectious virus, FIV, SIV</td>
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<td>2333</td>
<td>. . . HIV-1, HIV-2</td>
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<td>2333</td>
<td>. . . gag-pol, e.g. p55, p24/25, p17/18, p7, p6, p60/68, p51/52, p31/34, p32, p40</td>
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<td>2333</td>
<td>. . . env, e.g. gp160, gp110/120, gp41, V3, pepid T, DC4-Binding site</td>
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<td>2333</td>
<td>. . . Regulatory proteins, e.g. tat, nef, rev, vif, vpu, vpr, vpt, vpx</td>
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<td>2333</td>
<td>. . . Coronaviridae, e.g. avian infectious bronchitis virus</td>
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<td>2333</td>
<td>. . . Porcine transmissible gastroenteritis virus</td>
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<td>2333</td>
<td>. . . Bunyaviridae, e.g. California encephalitis virus, Rift valley fever virus, Hantaan virus</td>
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<td>. . . Togaviridae; Flaviviridae</td>
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<td>2333</td>
<td>. . . Alphaviruses or Group A arboviruses, e.g. sindbis, VEE, EEE, WEE or semliki forest virus (rubella virus G01N 2333/19)</td>
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<td>2333</td>
<td>. . . Flavivirus, e.g. pestivirus, mucosal disease virus, bovine viral diarrhoea virus, classical swine fever virus (hog cholera virus) or border disease virus</td>
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<td>2333</td>
<td>. . . Flaviruses or Group B arboviruses, e.g. yellow fever virus, japanese encephalitis, tick-borne encephalitis, dengue</td>
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<td>2333</td>
<td>. . . Hepatitis C; Hepatitis NANB</td>
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<td>2333</td>
<td>. . . Hepatitis G; Hepatitis NANB</td>
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<tr>
<td>2333</td>
<td>. . . Rubella virus</td>
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**NOTE**
In groups G01N 2333/20 - G01N 2333/365, where appropriate, after the bacteria terminology, the indication of the order (O),
family (F) or genus (G) of the bacteria is given in brackets.

... from Spirochaetales (O), e.g. Treponema, Leptospira
... from Campylobacter (G)
... from Pseudomonadaceae (F)
... from Moraxellaceae, e.g. Acinetobacter, Moraxella, Oligella or Psychrobacter
... from Halobacteriaceae (F)
... from Neisseriaceae (F), e.g. Alcaligenes (G)
... from Brucella (G)
... from Bordetella (G)
... from Enterobacteriaceae (F), e.g. Citrobacter, Serratia, Proteus, Providencia, Morganella, Yersinia
... from Escherichia (G)
... from Salmonella (G)
... from Klebsiella (G)
... from Enterobacter (G)
... from Erwinia (G)
... from Hafnia (G)
... from Vibroniaceae (F)
... from Pasteurellaceae (F), e.g. Haemophilus influenza
... from Richettsiales (o)
... from Chlamydiales (o)
... from Mycoplasmatales, e.g. Pleuropneumonia-like organisms [PPLO]
... from Micrococaceae (F)
... from Staphylococcus (G)
... from Streptococcus (G), e.g. Enterococci
... from Streptococcus pneumoniae (Streptokinase G01N 2333/3153)
... from Bacillus (G)
... from Bacillus thuringiensis crystal protein (delta-endotoxin)
... from Clostridium (G)
... from Lactobacillus (G)
... from Corynebacterium (G)
... from Brevibacterium (G)
... from Mycobacteriaceae (F)
... from Nocardia (G)
... from Actinomycetes; from Streptomyces (G)
... from Actinoplanes (G)
... from fungi
... from Basidiomycetes
... from Aspergillus
... from Penicillium
... from yeasts
... from Saccharomyces
... from Candida
... from algae
... from lichens
... from plants
... from Lectins, e.g. concanavalin, phytohaemagglutinin
... from Zeins
... from Sweetening agents, e.g. thaumatin, monellin

... from animals; from humans
... from invertebrates
... from crustaceans
... from arachnidae
... from spiders
... from scorpions
... from worms
... from nematodes
... from Caenorhabditis
... from cestodes
... from Taenia
... from trematodes
... from insects
... from ticks
... from wasps
... from bees
... from flies
... from Drosophila
... from silkworm
... from mites
... from fleas
... from mosquitoes
... from coelenteratae, e.g. medusae
... from protozoa
... from Plasmodium
... from Toxoplasma
... from Eimeria
... from vertebrates
... from fish
... from amphibians
... from reptiles
... from Snake venom
... from Russell’s viper
... from Agkistrodon sp., e.g. acutase, ACTE
... from Agkistrodon rhodostoma (Malayan pit viper); Arvin (R); Batroboxin; Ancrod
... from Agkistrodon contortrix contortrix (copperhead snake); Protac (R)
... from Crotaulus adamanteus (Eastern Diamondback rattle snake); Crotolase
... from Echis carinatus; Ecarin
... from Bothrops sp.
... from Bothrops atrox; Reptilase; Atroxin
... from Bothrops jararaca; Botrocinet
... from Oxyuran(eo)us scutellatus (Taipan snake of Elapidae family)
... from birds

NOTE

In groups G01N 2333/47 - G01N 2333/994 indexing codes are assigned irrespective to the source of the indicated proteins.

... from animals; from invertebrates
... from crustaceans
... from arachnidae
... from spiders
... from scorpions
... from worms
... from nematodes
... from Caenorhabditis
... from cestodes
... from Taenia
... from trematodes
... from insects
... from ticks
... from wasps
... from bees
... from flies
... from Drosophila
... from silkworm
... from mites
... from fleas
... from mosquitoes
... from coelenteratae, e.g. medusae
... from protozoa
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... from Toxoplasma
... from Eimeria
... from vertebrates
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... from amphibians
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... from Echis carinatus; Ecarin
... from Bothrops sp.
... from Bothrops atrox; Reptilase; Atroxin
... from Bothrops jararaca; Botrocinet
... from Oxyuran(eo)us scutellatus (Taipan snake of Elapidae family)
... from birds

... from Assays involving proteins of known structure or function as defined in the subgroups
... from Details
... from Regulators; Modulating activity
... from Inhibitors; Supressors
... from stimulating, promoting or activating activity
... from Guanosine triphosphatase activating protein, GAP
Assays involving cytokines

- Tumor necrosis factor (TNF)
- Thrombopoietin, i.e. C-MPL ligand
- Cationic antimicrobial peptides, e.g. defensins
- Proteoglycans, e.g. aggrecan
- Lectins
- Mucins, e.g. human intestinal mucin
- Calcium binding proteins, e.g. calmodulin
- alpha-Glycoproteins
- Recognins, e.g. malignin
- Casein
- Acute pancreatitis-associated protein
- Villin
- Retinoblastoma protein
- C-reactive protein
- Cyclin; Prad 1
- Pancreatic thread protein; Reg protein
- Keratin; Cytokeratin
- Lactadherin
- Insulin-like growth factor binding protein
- Cancer-associated SCM-recognition factor, CRISP1
- p53
- Assays involving growth factors
- Hepatocyte growth factor; Scatter factor; Tumor cytotoxic factor II
- Neuregulins, i.e. p185erbB2 ligands, glial growth factor, heregulin, ARIA, neu differentiation factor
- Nerve growth factor [NGF]
- Epidermal growth factor [EGF] (urogastrone)
- Platelet-derived growth factor [PDGF]
- Transforming growth factor [TGF]
- Fibroblast growth factors [FGF]
- Acidic FGF [aFGF]
- Basic FGF [bFGF]
- Erythropoietin [EPO]
- Bone morphogenetic factor; Osteogenins; Osteogenic factor; Bone-inducing factor
- Angiogenic factors; Angiogenin
- Assays involving cytokines
- Chemokines
- Alpha-chemokines, e.g. NAP-2, ENA-78, GRO-alpha/MGSA/NAP-3, GRO-beta/MIP-2alpha, MIP-2beta, IL-10, GCP-2, MIG, PBF, PF-4 or KC
- Beta-chemokines, e.g. RANTES, I-309/TCA-3, MIP-1alpha, MIP-1beta/ACT-2/ LD78/SCIF, MCP-1/MCAF, MCP-2, MCP-3, LDCF-1or LDCF-2
- Thrombopoietin, i.e. C-MPL ligand
- Tumor necrosis factor [TNF]

Hormones (derived from pro-opiomelanocortin, pro-enkephalin or pro-dynorphin)
- Corticotropin (Urotensin)
- Placental lactogen; Chorionic Somatomammotropin
- Calcitonin gene related peptide
- Endothelin, vasoactive intestinal contractor [VIC]
- Neuropeptide Y
- Prolactin
- Vasoactive intestinal peptide [VIP] or related peptides
- Gastrin releasing peptide
- Thymosin or related peptides
- Atrial natriuretic factor complex; Atriopeptin; Atrial natriuretic peptide [ANP]; Brain natriuretic peptide [BNP, proBNP]; Cardionatin; Cardiolidilatin
- Calcitons
- Follicle-stimulating hormone [FSH]; Chorionic gonadotropins, e.g. HCG; Luteinising hormone [LH]; Thyroid-stimulating hormone [TSH]
- Gastrins; Cholecystokinin [CCK]
- Growth-hormone releasing factors (GH-RF) (Somatoliberin)
- Glucagon
- Growth hormones [GH] (Somatotropin)
- Insulins
- Motilins
- Parathyroid hormone (parathormone); Parathyroid hormone-related peptides
- Relaxins
- Secretins
- Insulin-like growth factors (Somatomedins), e.g. IGF-1, IGF-2
Enzymes are generally categorised below according to the "Nomenclature and Classification of Enzymes" of the International Commission on Enzymes. Where appropriate, this designation appears in the groups below in parenthesis.

NOTE
Enzymes with nucleic acid structure; e.g. ribozymes

Antibodies with enzymatic activity; e.g. abzymes

Ligases (6)

Oxidoreductases (1.)

acting on the aldehyde or oxo group of donors (1.2)

acting on the CH-CH group of donors (1.3)

acting on NADH or NADPH (1.6), e.g. those with a heme protein as acceptor (1.6.2) (general), Cytochrome-b5 reductase (1.6.2.2) or NADPH-cytochrome P450 reductase (1.6.2.4)

acting on a sulfur group of donors (1.8)

acting on a heme group of donors (1.9)

acting on diphenols and related substances as donors (1.10)

with oxygen as acceptor (1.10.3) in general

with a definite EC number (1.10.3.-)

Catechol oxidase, i.e. Tyrosinase (1.10.3.1)

Laccase (1.10.3.2)

Ascorbate oxidase (1.10.3.3)

acting on hydrogen as donor (1.12)

acting on single donors with incorporation of molecular oxygen, i.e. oxygenases (1.13)

acting on paired donors with incorporation of molecular oxygen (1.14)

with NADH or NADPH as one of the donors, and incorporation of one atom of oxygen 1.14.13

with a definite EC number (1.14.13.-)

Nitric-oxide synthase (NOS; 1.14.13.39)

acting on hydrogen peroxide as acceptor (1.11)

acting on superoxide radicals as acceptor (1.15)

acting on superoxide radicals as acceptor (1.15)

oxidising metal ions (1.16)

acting on -CH2- groups (1.17)

acting on reduced ferredoxin as donor (1.18)

acting on reduced flavodoxin as donor (1.19)

acting on CHOH groups as donors, e.g. glucose oxidase, lactate dehydrogenase (1.1)

acting on nitrogen containing compounds as donors (1.4.1.5.17)

acting on the CH-NH2 group of donors (1.4)

with NAD or NADP as acceptor (1.4.1) in general

with a definite EC number (1.4.1.-)

Phenylalanine dehydrogenase (1.4.1.20)

with a cytochrome as acceptor (1.4.2)

with oxygen as acceptor (1.4.3) in general

with a definite EC number (1.4.3.-)

D-Amino acid oxidase (1.4.3.3)
acting on peptide bonds (3.4)

Metalloendopeptidases (3.4.24)

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Metalloendopeptidases (3.4.24)

Metalloendopeptidases (3.4.24)
Assays, e.g. immunoassays or enzyme assays, involving lipids (lipopolysaccharides G01N 2400/50)

2405/00
2405/02 . Triacylglycerols
2405/04 . Phospholipids, i.e. phosphoglycerides
2405/06 . Glycophospholipids, e.g. phosphatidyl inositol
2405/08 . Sphingolipids
2405/10 . Glycosphingolipids, e.g. cerebrosides, gangliosides

2407/00 Assays, e.g. immunoassays or enzyme assays, involving terpenes
2407/02 . Taxol; Taxanes

2410/00 Assays, e.g. immunoassays or enzyme assays, involving peptides of less than 20 amino acids
2410/02 . Angiotensins; Related peptides
2410/04 . Oxytocins; Vasopressins; Related peptides
2410/06 . Kallidins; Bradykinins; Related peptides
2410/08 . Cyclosporins and related peptides
2410/10 . Valinomycins and derivatives thereof

2415/00 Assays, e.g. immunoassays or enzyme assays, involving penicillins or cephalosporins

2430/00 Assays, e.g. immunoassays or enzyme assays, involving synthetic organic compounds as analytes
2430/10 . Insecticides
2430/12 . Pyrethroids
2430/20 . Herbicides, e.g. DDT
2430/30 . Polychlorinated biphenyls (PCBs)
2430/40 . Dioxins
2430/50 . Polyaromatic hydrocarbons (PAHs)
2430/60 . Synthetic polymers other than synthetic polypeptides as analytes

2440/00 Post-translational modifications [PTMs] in chemical analysis of biological material
2440/10 . acylation, e.g. acetylation, formylation, lipoylation, myristoylation, palmitoylation
2440/12 . alklylation, e.g. methylation, (iso-)prenylation, farnesylation
2440/14 . phosphorylation
2440/16 . (de-)jamidation
2440/18 . citrullination
2440/20 . formation of disulphide bridges
2440/22 . iodination
2440/24 . hydroxylation
2440/26 . nitrosylation
2440/28 . PEGylation
2440/30 . sulphation
2440/32 . biotinylation
2440/34 . addition of amino acid(s), e.g. arginylation, (poly-)glutamylation, (poly-)glycylolation
2440/36 . addition of addition of other proteins or peptides, e.g. SUMOylation, ubiquitination
2440/38 . addition of carbohydrates, e.g. glycosylation, glycation
2440/40 . addition of nucleotides or derivatives, e.g. adenylation, flavin attachment

2446/00 Magnetic particle immunoreagent carriers
2446/10 . the magnetic material being used to coat a pre-existing polymer particle but not being present in the particle core
2446/20 . the magnetic material being present in the particle core
2446/30 . the magnetic material being dispersed in the polymer composition before their conversion into particulate form
2446/40 . the magnetic material being dispersed in the monomer composition prior to polymerisation
2446/60 . the magnetic material being dispersed in a medium other than the main solvent prior to incorporation into the polymer particle
G01N

2446/62 Magnetic material dispersed in water drop
2446/64 Magnetic material dispersed in oil drop
2446/66 Magnetic material dispersed in surfactant
2446/80 characterised by the agent used to coat the magnetic particles, e.g. lipids
2446/84 Polymer coating, e.g. gelatin
2446/86 the coating being pre-functionalised for attaching immunoreagents, e.g. aminodextran
2446/90 characterised by small molecule linker used to couple immunoreagents to magnetic particles

2458/00 Labels used in chemical analysis of biological material
2458/10 Oligonucleotides as tagging agents for labelling antibodies
2458/15 Non-radioactive isotope labels, e.g. for detection by mass spectrometry
2458/20 Labels for detection by gas chromatography, e.g. halogen systems
2458/30 Electrochemically active labels
2458/40 Rare earth chelates

2469/00 Immunoassays for the detection of microorganisms
2469/10 Detection of antigens from microorganism in sample from host
2469/20 Detection of antibodies in sample from host which are directed against antigens from microorganisms

2496/00 Reference solutions for assays of biological material
2496/05 containing blood cells or plasma
2496/10 containing particles to mimic blood cells
2496/15 containing dyes to mimic optical absorption of, e.g. hemoglobin
2496/25 containing added polymers to stabilise biological material against degradation or maintain viscosity or density, e.g. gelatin, polyacrylamides, polyvinyl alcohol (casein G01N 2333/4731, albumins G01N 2333/76, polysaccharides G01N 2400/10)
2496/30 Polyethylene glycol, e.g. PEG
2496/35 Polyvinylpyrrolidone, e.g. PVP
2496/45 containing protease inhibitors, e.g. sulfonylfluorides, chloromethylketones, organophosphates (peptide-based protease inhibitors G01N 2333/81)
2496/70 Blood gas control solutions containing dissolved oxygen, bicarbonate and the like
2496/80 Multi-analyte reference solutions containing cholesterol, glucose and the like

2500/00 Screening for compounds of potential therapeutic value
2500/02 Screening involving studying the effect of compounds C on the interaction between interacting molecules A and B (e.g. A = enzyme and B = substrate for A, or A = receptor and B = ligand for the receptor)
2500/04 Screening involving studying the effect of compounds C directly on molecule A (e.g. C are potential ligands for a receptor A, or potential substrates for an enzyme A)
2500/10 involving cells
2500/20 cell-free systems

2510/00 Detection of programmed cell death, i.e. apoptosis

2520/00 Use of whole organisms as detectors of pollution
2550/00 Electrophoretic profiling, e.g. for proteome analysis
2560/00 Chemical aspects of mass spectrometric analysis of biological material

NOTES
1. Analysis of proteins, peptides or amino acids by mass spectrometry is classified in G01N 33/6848 and G01N 33/6851.
2. Analysis of nucleic acids by mass spectrometry is classified in C12Q 1/6872, C12Q 2563/167 and C12Q 2565/627.

2570/00 Omics, e.g. proteomics, glycomics or lipidomics; Methods of analysis focusing on the entire complement of classes of biological molecules or subsets thereof, i.e. focusing on proteomes, glycomes or lipidomes

2600/00 Assays involving molecular imprinted polymers/polymers created around a molecular template
2610/00 Assays involving self-assembled monolayers [SAMs]
2650/00 Assays involving polymers whose constituent monomers bore biological functional groups before polymerization, i.e. vinyl, acryl derivatives of amino acids, sugars

2800/00 Detection or diagnosis of diseases

NOTES
2. For diseases caused by microorganism where the microorganism is detected, which subject matter is classified in G01N 33/569 and subgroups, G01N 33/571 or G01N 33/576, the present indexing scheme is not used.
3. For cancers, which subject matter is classified in G01N 33/574 and subgroups, the present indexing scheme is not used.
4. When indexing in the following scheme, the organ takes precedence, e.g. inflammation of the skin is indexed with dermatological disorders and not with immunology or allergic disorders, asthma with pulmonary disorders and not with immunology or allergic disorders. Exception is made for thrombosis which is indexed with haematological disorders.

2800/02 . Nutritional disorders
2800/04 . Endocrine or metabolic disorders
2800/042 . Disorders of carbohydrate metabolism, e.g. diabetes, glucose metabolism
2800/044 . Hyperlipemia or hypolipemia, e.g. dyslipidaemia, obesity
2800/046 . Thyroid disorders
2800/048 . Pituitary or hypothalamic - pituitary relationships, e.g. vasopressin or ADH related
2800/06 . Gastro-intestinal diseases
2800/062 . Gastritis or peptic ulcer disease
2800/065 . Bowel diseases, e.g. Crohn, ulcerative colitis, IBS
2800/067 . . Pancreatitis or colitis
2800/08 . Hepato-biliary disorders other than hepatitis
2800/085 . . Liver diseases, e.g. portal hypertension, fibrosis, cirrhosis, bilirubin
2800/10 . Musculoskeletal or connective tissue disorders
2800/101 . . Diffuse connective tissue disease, e.g. Sjögren, Wegener's granulomatosis
2800/102 . . Arthritis; Rheumatoid arthritis, i.e. inflammation of peripheral joints
2800/104 . Lupus erythematosus [SLE]
2800/105 . . Osteoarthritis, e.g. cartilage alteration, hypertrophy of bone
2800/107 . Crystal induced conditions; Gout
2800/108 . Osteoporosis
2800/12 . Pulmonary diseases
2800/122 . . Chronic or obstructive airway disorders, e.g. asthma COPD
2800/125 . . Adult respiratory distress syndrome
2800/127 . Bronchitis
2800/14 . Disorders of ear, nose or throat
2800/16 . Ophthalmology
2800/162 . . Conjunctival disorders, e.g. conjunctivitis
2800/164 . . Retinal disorders, e.g. retinopathy
2800/166 . . Cataract
2800/168 . . Glaucoma
2800/18 . Dental and oral disorders
2800/20 . Dermatological disorders
2800/202 . . Dermatitis
2800/205 . Scaling papular diseases, e.g. psoriasis, pityriasis
2800/207 . . Pigmentation disorders
2800/22 . . Hematology
2800/222 . . Platelet disorders
2800/224 . . Hemostasis or coagulation
2800/226 . . Thrombotic disorders, i.e. thrombo-embolism irrespective of location/organ involved, e.g. renal vein thrombosis, venous thrombosis
2800/228 . . Disorders of the spleen, e.g. splenic rupture, splenomegaly
2800/24 . Immunoology or allergic disorders [SLE G01N 2800/104]
2800/245 . . Transplantation related diseases, e.g. graft versus host disease
2800/26 . Infectious diseases, e.g. generalised sepsis

NOTE

Indexing code G01N 2800/26 is not used for documents already classified in one or more of groups G01N 33/569 and subgroups, G01N 33/571 or G01N 33/576 and subgroups

2800/28 . Neurological disorders
2800/2807 . . Headache; Migraine
2800/2814 . Dementia; Cognitive disorders
2800/2821 . . Alzheimer
2800/2828 . . Prion diseases
2800/2835 . . Movement disorders, e.g. Parkinson, Huntington, Tourette
2800/2842 . . Pain, e.g. neuropathic pain, psychogenic pain
2800/285 . Demyelinating diseases; Multiple sclerosis
2800/2857 . . Seizure disorders; Epilepsy
2800/2864 . . Sleep disorders

2800/2871 . . Cerebrovascular disorders, e.g. stroke, cerebral infarct, cerebral haemorrhage, transient ischemic event
2800/2878 . . Muscular dystrophy
2800/2885 . . Duchenne dystrophy
2800/2892 . . Myotonic dystrophy
2800/30 . Psychoses; Psychiatry
2800/301 . Anxiety or phobic disorders
2800/302 . . Schizophrenia
2800/303 . Eating disorders, e.g. anorexia, bulimia
2800/304 . Mood disorders, e.g. bipolar, depression
2800/305 . . Attention deficit disorder; Hyperactivity
2800/306 . . Chronic fatigue syndrome
2800/307 . . Drug dependency, e.g. alcoholism
2800/308 . . Psychosexual disorders, e.g. sexual arousal disorder
2800/32 . Cardiovascular disorders
2800/321 . . Arterial hypertension
2800/322 . . Orthostatic hypertension or syncope
2800/323 . . Arteriosclerosis, Stenosis
2800/324 . Coronary artery diseases, e.g. angina pectoris, myocardial infarction
2800/325 . . Heart failure or cardiac arrest, e.g.
2800/326 . . Cardiomyopathy, congestive heart failure
2800/327 . . Endocarditis
2800/328 . . Vascularis, i.e. inflammation of blood vessels
2800/329 . . Diseases of the aorta or its branches, e.g.
2800/334 . . Aneurysms, aortic dissection
2800/335 . . Urinary calculi
2800/34 . . Urinary tract infections
2800/342 . . Prostate diseases, e.g. BPH, prostatitis
2800/344 . . Disorders of the penis and the scrotum and erectile dysfunction
2800/345 . . Urinary calculi
2800/347 . . Renal failures; Glomerular diseases;
2800/358 . . Tubulointerstitial diseases, e.g. nephritic syndrome, glomerulonephritis; Renovascular diseases, e.g. renal artery occlusion, nephropathy
2800/348 . . Cardiovascular disorders
2800/36 . . Gynecology or obstetrics
2800/361 . . Menstrual abnormalities or abnormal uterine bleeding, e.g. dysmenorrhea
2800/362 . . Menopause
2800/364 . . Endometriosis, i.e. non-malignant disorder in which functioning endometrial tissue is present outside the uterine cavity
2800/365 . . Breast disorders, e.g. mastalgia, mastitis, Paget's disease
2800/367 . . Infertility, e.g. sperm disorder, ovulatory dysfunction
2800/368 . . Pregnancy complicated by disease or abnormalities of pregnancy, e.g. preeclampsia, preterm labour
2800/38 . . Pediatrics
2800/382 . . Cystic fibrosis
2800/385 . . Congenital anomalies
2800/387 . . . Down syndrome; Trisomy 18; Trisomy 13
2800/40 . . Disorders due to exposure to physical agents, e.g. heat disorders, motion sickness, radiation injuries, altitude sickness, decompression illness
Poisoning, e.g. from bites or stings
Multiple drug resistance
Determining the risk of developing a disease
Predicting or monitoring the response to treatment; Prognosis
Determining the risk of relapse
Staging of a disease; Further complications associated with the disease
Complex ways of combining multiple protein biomarkers for diagnosis
Mechanisms involved in disease identification (G01N 2800/02 - G01N 2800/44 take precedence)
Stress
Oxidative stress
(Neo)vascularisation - Angiogenesis
Ischaemia
(Hyper)proliferation
Cancer
Non-proliferative mechanisms
Hypoxia
Aging, e.g. cellular aging
Fibrils-Filaments-Plaque formation
Fibrosis
(Intracellular) signaling and trafficking pathways
Endoplasmic reticulum to Golgi trafficking
Metabolic pathways
Carbohydrate metabolism, e.g. glycolysis, gluconeogenesis
Amino acid metabolism
Nitrogen metabolism, e.g. urea cycle
Lipogenesis or lipolysis, e.g. fatty acid metabolism
Toxin induced
Inflammation