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Combination sets

Introduction to classification with Combination sets in Polymers



Classification in Polymers

- Classification in polymers can cover various aspects:
  - Polymer structure
  - Polymer synthesis and processes
  - Composition of polymer mixtures
  - Properties of polymers and polymer compositions
  - Uses of polymer compositions

- Classification by one or several **Main-Groups** or **Sub-Groups** in **CPC**

Aspects of Polymer classification

Chemistry			Applications	
Structure	Synthesis and Processes	Compositions	Properties	Uses
C08F	C08F	C08L	C09D	C08J, C08L
C08G	C08G	C08K	C09J	C09D, C09J
	C08J		C08L	C09K, C11D
	C08L			A61
				D04, D06
				G02
				H01M

Documents are classified within several Groups

Linked Symbols: Combination sets

- **Combination sets:**
- **Groups of "Linked symbols":**
  - Combination set identifies the **presence of technical features taken "in combination"** or **"together" in an embodiment**
- Bringing together symbols from different sub-groups indicates a **technical relationship** between said features
- Allows to classify linked features for which no single sub-group exists
- Retaining the **link** between features allows:
  - **increased precision of search** when a document contains combined information about e.g. product-process, products compositions, products-uses
  - Find features that are **otherwise not easy to find**

Linked Symbols: Combination sets, linking Sub-groups together

CPC scheme and CPC definitions

≡ next to the scheme gives access to the corresponding interleaved version (more information here).

A		B		C		D		E		F		G		H		Y
Scheme	Def.	Scheme	Def.	Scheme	Def.	Scheme	Def.	Scheme	Def.	Scheme	Def.	Scheme	Def.	Scheme	Def.	Scheme
A ≡	A	B ≡	B	C ≡	C	D ≡	D	E ≡	E	F ≡	F	G ≡	G	H ≡	H	Y ≡
A01B ≡	A01B	B01B ≡	B01B	C01B ≡	C01B	D01B ≡	D01B	E01B ≡	E01B	F01B ≡	F01B	G01B ≡	G01B	H01B ≡	H01B	Y02B ≡
A01C ≡	A01C	B01D ≡	B01D	C01C ≡	C01C	D01C ≡	D01C	E01C ≡	E01C	F01C ≡	F01C	G01C ≡	G01C	H01C ≡	H01C	Y02C ≡
A01D ≡	A01D	B01F ≡	B01F	C01D ≡	C01D	D01D ≡	D01D	E01D ≡	E01D	F01D ≡	F01D	G01D ≡	G01D	H01F ≡	H01F	Y02E ≡
A01F ≡	A01F	B01J ≡	B01J	C01F ≡	C01F	D01F ≡	D01F	E01F ≡	E01F	F01K ≡	F01K	G01F ≡	G01F	H01G ≡	H01G	Y02T ≡
A01G ≡	A01G	B01L ≡	B01L	C01G ≡	C01G	D01G ≡	D01G	E01H ≡	E01H	F01L ≡	F01L	G01G ≡	G01G	H01H ≡	H01H	Y04S ≡
A01H ≡	A01H	B02B ≡	B02B	C01P ≡	C01P	D01H ≡	D01H	E02B ≡	E02B	F01M ≡	F01M	G01H ≡	G01H	H01J ≡	H01J	Y10S ≡
A01J ≡	A01J	B02C ≡	B02C	C02F ≡	C02F	D02G ≡	D02G	E02C ≡	E02C	F01N ≡	F01N	G01J ≡	G01J	H01K ≡	H01K	
A01K ≡	A01K	B03B ≡	B03B	C03B ≡	C03B	D02H ≡	D02H	E02D ≡	E02D	F01P ≡	F01P	G01K ≡	G01K	H01L ≡	H01L	
A01L ≡	A01L	B03C ≡	B03C	C03C ≡	C03C	D02J ≡	D02J	E02F ≡	E02F	F02B ≡	F02B	G01L ≡	G01L	H01M ≡	H01M	
A01M ≡	A01M	B03D ≡	B03D	C04B ≡	C04B	D03C ≡	D03C	E03B ≡	E03B	F02C ≡	F02C	G01M ≡	G01M	H01P ≡	H01P	
A01N ≡	A01N	B04B ≡	B04B	C05B ≡	C05B	D03D ≡	D03D	E03C ≡	E03C	F02D ≡	F02D	G01N ≡	G01N	H01Q ≡	H01Q	
A21B ≡	A21B	B04C ≡	B04C	C05C ≡	C05C	D03J ≡	D03J	E03D ≡	E03D	F02F ≡	F02F	G01P ≡	G01P	H01R ≡	H01R	
A21C ≡	A21C	B05B ≡	B05B	C05D ≡	C05D	D04B ≡	D04B	E03F ≡	E03F	F02G ≡	F02G	G01Q ≡	G01Q	H01S ≡	H01S	
A21D ≡	A21D	B05C ≡	B05C	C05F ≡	C05F	D04C ≡	D04C	E04B ≡	E04B	F02K ≡	F02K	G01R ≡	G01R	H01T ≡	H01T	
A22B ≡	A22B	B05D ≡	B05D	C05G ≡	C05G	D04D ≡	D04D	E04C ≡	E04C	F02M ≡	F02M	G01S ≡	G01S	H02B ≡	H02B	
A22C ≡	A22C	B06B ≡	B06B	C06B ≡	C06B	D04G ≡	D04G	E04D ≡	E04D	F02N ≡	F02N	G01T ≡	G01T	H02G ≡	H02G	
A23B ≡	A23B	B07B ≡	B07B	C06C ≡	C06C	D04H ≡	D04H	E04F ≡	E04F	F02P ≡	F02P	G01V ≡	G01V	H02H ≡	H02H	
A23C ≡	A23C	B07C ≡	B07C	C06D ≡	C06D	D05B ≡	D05B	E04G ≡	E04G	F02W ≡	F02W	G01W ≡	G01W	H02J ≡	H02J	
A23D ≡	A23D	B08B ≡	B08B	C06F ≡	C06F	D05C ≡	D05C	E04H ≡	E04H	F03B ≡	F03B	G02B ≡	G02B	H02K ≡	H02K	
A23F ≡	A23F	B09B ≡	B09B	C07B ≡	C07B	D05D ≡	D05D	E05B ≡	E05B	F03C ≡	F03C	G02C ≡	G02C	H02M ≡	H02M	
A23G ≡	A23G	B09C ≡	B09C	C07C ≡	C07C	D06B ≡	D06B	E05C ≡	E05C	F03D ≡	F03D	G02F ≡	G02F	H02N ≡	H02N	
A23J ≡	A23J	B21B ≡	B21B	C07D ≡	C07D	D06C ≡	D06C	E05D ≡	E05D	F03G ≡	F03G	G03B ≡	G03B	H02P ≡	H02P	
A23K ≡	A23K	B21C ≡	B21C	C07F ≡	C07F	D06F ≡	D06F	E05F ≡	E05F	F03H ≡	F03H	G03C ≡	G03C	H02S ≡	H02S	
A23L ≡	A23L	B21D ≡	B21D	C07G ≡	C07G	D06G ≡	D06G	E05G ≡	E05G	F04B ≡	F04B	G03D ≡	G03D	H03B ≡	H03B	
A23N ≡	A23N	B21F ≡	B21F	C07H ≡	C07H	D06H ≡	D06H	E05Y ≡	E05Y	F04C ≡	F04C	G03F ≡	G03F	H03C ≡	H03C	
A23P ≡	A23P	B21G ≡	B21G	C07J ≡	C07J	D06J ≡	D06J	E06B ≡	E06B	F04D ≡	F04D	G03G ≡	G03G	H03D ≡	H03D	
A23V ≡	A23V	B21H ≡	B21H	C07K ≡	C07K	D06L ≡	D06L	E06C ≡	E06C	F04F ≡	F04F	G03H ≡	G03H	H03F ≡	H03F	
A23Y ≡	A23Y	B21J ≡	B21J	C08B ≡	C08B	D06M ≡	D06M	E21B ≡	E21B	F05B ≡	F05B	G04B ≡	G04B	H03G ≡	H03G	
A24B ≡	A24B	B21K ≡	B21K	C08C ≡	C08C	D06N ≡	D06N	E21C ≡	E21C	F05C ≡	F05C	G04C ≡	G04C	H03H ≡	H03H	
A24C ≡	A24C	B21L ≡	B21L	C08F ≡	C08F	D06P ≡	D06P	E21D ≡	E21D	F05D ≡	F05D	G04D ≡	G04D	H03J ≡	H03J	
A24D ≡	A24D	B22C ≡	B22C	C08G ≡	C08G	D06Q ≡	D06Q	E21F ≡	E21F	F15B ≡	F15B	G04F ≡	G04F	H03K ≡	H03K	
A24F ≡	A24F	B22D ≡	B22D	C08H ≡	C08H	D07B ≡	D07B			F15C ≡	F15C	G04G ≡	G04G	H03L ≡	H03L	
A41B ≡	A41B	B22F ≡	B22F	C08J ≡	C08J	D10B ≡	D10B			F15D ≡	F15D	G04R ≡	G04R	H03M ≡	H03M	
A41C ≡	A41C	B23B ≡	B23B	C08K ≡	C08K	D21B ≡	D21B			F16B ≡	F16B	G05B ≡	G05B	H04B ≡	H04B	
A41D ≡	A41D	B23C ≡	B23C	C08L ≡	C08L	D21C ≡	D21C			F16C ≡	F16C	G05D ≡	G05D	H04H ≡	H04H	
A41F ≡	A41F	B23D ≡	B23D	C09B ≡	C09B	D21D ≡	D21D			F16D ≡	F16D	G05F ≡	G05F	H04J ≡	H04J	
A41G ≡	A41G	B23F ≡	B23F	C09C ≡	C09C	D21F ≡	D21F			F16F ≡	F16F	G05G ≡	G05G	H04K ≡	H04K	
A41H ≡	A41H	B23G ≡	B23G	C09D ≡	C09D	D21G ≡	D21G			F16G ≡	F16G	G06C ≡	G06C	H04L ≡	H04L	
A42B ≡	A42B	B23H ≡	B23H	C09F ≡	C09F	D21H ≡	D21H			F16H ≡	F16H	G06D ≡	G06D	H04M ≡	H04M	

http://www.cooperativepatentclassification.org/cpcSchemeAndDefinitions/table.html

Example

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(12) **Patent Application Publication**

Inui et al.

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(54) **ADHESIVE LAYER FOR OPTICAL FILM, METHOD FOR PRODUCING SAME, OPTICAL FILM WITH ADHESIVE LAYER, AND IMAGE DISPLAY DEVICE**

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CPC ***C09J 133/12*** (2013.01); ***G02B 5/30*** (2013.01)
USPC **359/494.01**; 427/208.4; 428/327; 524/561

(57) **ABSTRACT**

The pressure-sensitive adhesive layer for an optical film of the invention is formed by a process comprising applying a water-dispersible pressure-sensitive adhesive containing emulsion particles comprising polymer particles emulsified with a surfactant and then drying the applied water-dispersible pressure-sensitive adhesive, and is in such a state that the polymer particles have a number average particle size (a) of 10 nm to 100 nm and that the ratio (a/b) of the number average particle size (a) to the average distance (b) between adjacent polymer particles is from 80/20 to 99.9/0.1, when the pressure-sensitive adhesive layer being observed with a transmission electron microscope. The pressure-sensitive adhesive layer makes it possible to reduce depolarization even when it is used on a high-contrast polarizing plate or any other component having a high degree of polarization.

Example (Continued)

The pressure-sensitive adhesive layer for an optical film of the invention is formed by a process comprising applying a water-dispersible pressure-sensitive adhesive containing emulsion particles comprising polymer particles emulsified with a surfactant and then drying the applied water-dispersible pressure-sensitive adhesive, and is in such a state that the polymer particles have a number average particle size (a) of 10 nm to 100 nm and that the ratio (a/b) of the number average particle size (a) to the average distance (b) between adjacent polymer particles is from 80/20 to 99.9/0.1, when the pressure-sensitive adhesive layer being observed with a transmission electron microscope. The pressure-sensitive adhesive layer makes it possible to reduce depolarization even when it is used on a high-contrast polarizing plate or any other component having a high degree of polarization.

comprising applying a

water-dispersible pressure-sensitive adhesive containing emulsion particles comprising polymer particles emulsified

Production Example 1

Preparation of Monomer Emulsion

[0113] To a vessel were added 780 parts of butyl acrylate, 20 parts of acrylic acid, and 200 parts of methyl methacrylate, and mixed to form a monomer component. Subsequently, 22

Combination set: C08F2220/1825,C08F220/14,C08F220/06

Finding documents and Combination sets classification symbols on Espacenet

Bibliographic data: US2013182324 (A1) — 2013-07-18

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ADHESIVE LAYER FOR OPTICAL FILM, METHOD FOR PRODUCING SAME, OPTICAL FILM WITH ADHESIVE LAYER, AND IMAGE DISPLAY DEVICE

Page bookmark	US2013182324 (A1) - ADHESIVE LAYER FOR OPTICAL FILM, METHOD FOR PRODUCING SAME, OPTICAL FILM WITH ADHESIVE LAYER, AND IMAGE DISPLAY DEVICE
Inventor(s):	INUI KUNIHIRO [JP]; HOSOKAWA TOSHITSUGU [JP]; ISHII TAKAAKI [JP]; SATAKE MASAYUKI [JP]; YAMAGATA KAZUTO [JP] +
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Classification:	**- international:** ***C09J133/12; G02B5/30***
	- cooperative: **C09J133/12**; **C09J7/0246**; **G02B5/30**; **G02B5/3025**; C08F2220/1825; C09J2201/622; C09J2203/318; C09J2433/00 → more
Application number:	US201113822499 20110913
Priority number(s):	JP20100211128 20100921 ; JP20110186052 20110829 ; WO2011JP70862 20110913
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Finding documents and classification symbols on Espacenet (2)

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	- cooperative: **default** **C09J133/12**; **C09J7/0246**; **G02B5/30**; **G02B5/3025**; C08F2220/1825; C09J2201/622; C09J2203/318; C09J2433/00
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Conclusion

- Use of **Combination Set** allows a proper indexing and searching of combined features that are **otherwise not easy to find**
- Use of **Combination Sets** increases **search efficiency, reduces noise in search**
- **Use of Combination Sets does not bring extra costs** (process, products, uses have to be identified anyway)
- Use of **Combination Sets** is not another classification but rather a **further dimension in classification**