

Title (en)

Preparation method of morphologically homogeneous (111) tabular crystals rich in silver bromide

Title (de)

Verfahren zur Herstellung von morphologisch homogenen silberbromidreichen tafelförmigen (111)-Kristallen

Title (fr)

Procédé pour la préparation des cristaux tabulaires (111) riches en bromure d'argent et morphologiquement homogènes

Publication

**EP 0911687 B1 20040714 (EN)**

Application

**EP 97203313 A 19971024**

Priority

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Abstract (en)

[origin: EP0911687A1] A method is disclosed for preparing an emulsion having grains rich in silver bromide in the presence of gelatin as a protective colloid in a reaction vessel wherein a yield of more than 250 g of precipitated silver nitrate per liter of reaction vessel mixture is attained, wherein at least 70 % of a total projected area of all grains is provided by  $\{111\}$  tabular grains having an average aspect ratio of more than 2:1 and an average thickness of from 0.05 up to 0.30  $\mu\text{m}$  and wherein a ratio by number of procentual amounts of hexagonal tabular grains to triangular tabular crystals present is more than 10:1, said method comprising following steps : preparing in a reaction vessel a gelatinous dispersion medium containing an initial amount of oxidized gelatin corresponding with less than 50 % of a total amount of gelatin used in the said method, and said dispersion medium having a volume of less than 2 liter per 500 g of silver nitrate to be precipitated; precipitating therein silver halide crystal nuclei by double-jet precipitation of an aqueous silver nitrate and an aqueous solution comprising halide ions, wherein less than 10 % by weight of a total amount of silver nitrate used is consumed; adding to said reaction vessel gelatin in an amount of more than 50 % of a total amount of gelatin used in the said method; growing said silver halide crystal nuclei by further precipitation of silver halide by means of double-jet precipitation of an aqueous silver nitrate solution and an aqueous solution comprising halide ions, wherein more than 90 % by weight of a total amount of silver nitrate is consumed, concentrating by ultrafiltration the said reaction mixture volume in the said reaction vessel obtained during precipitation growth steps.

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