

Title (en)
HIGH PERFORMANCE NATURAL SILK FIBER AND PREPARATION METHOD THEREOF

Title (de)
NATÜRLICHE HOCHLEISTUNGSSEIDENFASER UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)
FIBRE DE SOIE NATURELLE DE HAUTE PERFORMANCE ET SON PROCÉDÉ DE PRÉPARATION

Publication
EP 3369859 A4 20190619 (EN)

Application
EP 15906939 A 20151028

Priority
CN 2015093139 W 20151028

Abstract (en)
[origin: EP3369859A1] A high performance natural silk fiber and a preparation method thereof, wherein silk, raw silk, twisted silk or braided silk thread is used as the raw material, which then becomes a high performance silk fiber after being shrunk or stretched; more specifically, a silk swelling solution is prepared by mixing an inorganic salt, an acid and water according to a certain ratio, the silk fiber is then immersed in the swelling solution in order to be stretched/shrunk; and finally the high performance silk fiber is obtained following rinsing with clean water, neutralizing and drying. The preparation method is simple and effective, and has a short process. The breaking strength of the silk fiber prepared by means of this method is comparable to that of spider silk. Therefore, it is well suited for application in high-tech fields, such as artificial ligaments, ophthalmic sutures, protective clothing, etc.

IPC 8 full level
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Citation (search report)
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• [Y] FENG ZHANG ET AL: "Facile Fabrication of Robust Silk Nanofibril Films via Direct Dissolution of Silk in CaCl₂-Formic Acid Solution", ACS APPLIED MATERIALS & INTERFACES, vol. 7, no. 5, 29 January 2015 (2015-01-29), US, pages 3352 - 3361, XP055586959, ISSN: 1944-8244, DOI: 10.1021/am508319h

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