

Title (en)
NANOMETRIC ANATASE LATTICE STABILISED BY CATION VACANCIES, METHODS FOR THE PRODUCTION THEREOF, AND USES OF SAME

Title (de)
DURCH KATIONENLEERSTELLEN STABILISIERTES NANOMETRISCHES ANATASGITTER, VERFAHREN ZUR HERSTELLUNG DAVON UND VERWENDUNGEN DAVON

Title (fr)
RESEAU D'ANATASE NANOMETRIQUE STABILIZE PAR DES LACUNES CATIONIQUES, PROCEDES POUR LEUR PREPARATION ET LEURS UTILISATIONS

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Abstract (en)
[origin: WO2016077933A1] The invention relates to a method for producing titanium-containing compounds having an anatase-type structure with cation vacancies resulting from a partial substitution of oxygen atoms with fluorine atoms and hydroxyl groups. The invention also relates to electrochemically active materials comprising titanium-containing compounds for use in lithium-ion battery electrodes.

IPC 8 full level
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Citation (search report)
• [X1] US 5597515 A 19970128 - KAUFFMAN JAMES W [US], et al
• [X1] MORI K ET AL: "Hydrothermal synthesis of TiO₂ photocatalysts in the presence of NH₄F and their application for degradation of organic compounds", CHEMICAL ENGINEERING SCIENCE, OXFORD, GB, vol. 63, no. 20, 1 October 2008 (2008-10-01), pages 5066 - 5070, XP025874328, ISSN: 0009-2509, [retrieved on 20081001], DOI: 10.1016/J.CES.2007.06.030
• [X1] JIMMY C YU ET AL: "Effects of F- Doping on the Photocatalytic Activity and Microstructures of Nanocrystalline TiO₂ Powders", CHEMISTRY OF MATERIALS, AMERICAN CHEMICAL SOCIETY, vol. 14, no. 9, 1 January 2002 (2002-01-01), pages 3808 - 3816, XP007908501, ISSN: 0897-4756, DOI: 10.1021/CM020027C
• [X1] YE M ET AL: "Effect of key parameters on the morphology transformation of three-dimensional TiO₂ solid microspheres", MATERIALS LETTERS, ELSEVIER, AMSTERDAM, NL, vol. 65, no. 2, 31 January 2011 (2011-01-31), pages 363 - 366, XP027542245, ISSN: 0167-577X, [retrieved on 20101020]
• [X1] JIA-GUO YU ET AL: "The effect of F--doping and temperature on the structural and textural evolution of mesoporous TiO₂ powders", JOURNAL OF SOLID STATE CHEMISTRY, vol. 174, no. 2, 1 September 2003 (2003-09-01), pages 372 - 380, XP055069519, ISSN: 0022-4596, DOI: 10.1016/S0022-4596(03)00250-0
• [X1] HUN-GI JUNG ET AL: "Mesoporous Anatase TiO₂ with High Surface Area and Controllable Pore Size by F - -Ion Doping: Applications for High-Power Li-Ion Battery Anode", JOURNAL OF PHYSICAL CHEMISTRY C, vol. 113, no. 50, 12 November 2009 (2009-11-12), pages 21258 - 21263, XP055469020, ISSN: 1932-7447, DOI: 10.1021/jp908719k
• See also references of WO 2016077933A1

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