

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
12 February 2009 (12.02.2009)

PCT

(10) International Publication Number
WO 2009/020436 A1

(51) International Patent Classification:

B82B 3/00 (2006.01) **C09K 11/88** (2006.01)
C09K 11/54 (2006.01)

(21) International Application Number:

PCT/SG2008/000290

(22) International Filing Date: 6 August 2008 (06.08.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/954,179 6 August 2007 (06.08.2007) US

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(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE,
EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID,
IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK,
LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW,
MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT,
RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL,
NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG,
CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(54) Title: PROCESS OF FORMING A CADMIUM AND SELENIUM CONTAINING NANOCRYSTALLINE COMPOSITE
AND NANOCRYSTALLINE COMPOSITE OBTAINED THEREFROM

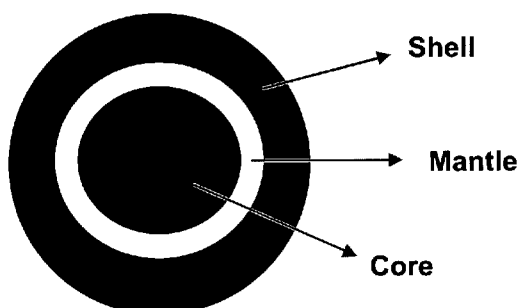


Fig. 2

(57) Abstract: Provided is a process of forming a Cd and Se containing nanocrystalline composite. The nanocrystalline composite has a composition of one of (a) Cd, M, Se, (b) Cd, Se, A, and (c) Cd, M, Se, A, with M being an element of group (12) of the PSE other than Cd and A being an element of group (16) of the PSE other than O and Se. In one embodiment in a suitable solvent a solution of the element Cd, or a precursor thereof, and, where applicable, of M, or a precursor thereof is formed. To the solution the element Se and, where applicable, A is added and thereby a reaction mixture formed. The reaction mixture is heated for a sufficient period of time at a temperature suitable for forming the Cd and Se containing nanocrystalline composite and then the reaction mixture is allowed to cool. Finally the Cd and Se containing nanocrystalline composite is isolated. In another embodiment the reaction mixture is formed by adding into a suitable solvent the element Cd, or a precursor thereof, Se, where applicable M and where applicable A. In this embodiment the reaction mixture is heated and water formed during the process is being removed.



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