Title (en)

METHOD FOR THE PRODUCTION OF QUANTUM DOTS EMBEDDED IN A MATRIX, AND QUANTUM DOTS EMBEDDED IN A MATRIX PRODUCED USING THE METHOD

Title (de)

VERFAHREN ZUR HERSTELLUNG VON IN EINER MATRIX EINGEBETTETEN QUANTENPUNKTEN UND MIT DEM VERFAHREN HERGESTELLTE IN EINER MATRIX EINGEBETTETE QUANTENPUNKTE

Title (fr)

PROCÉDÉ DE PRÉPARATION DE POINTS QUANTIQUES INCORPORÉS DANS UNE MATRICE ET POINTS QUANTIQUES INCORPORÉS DANS UNE MATRICE ET PRÉPARÉS À L'AIDE DU PROCÉDÉ

Publication

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Application

EP 07856081 A 20071211

Priority

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Abstract (en)

[origin: WO2008074298A1] The depositing of a metallic precursor which is dissolved in a solution containing a polymer onto a substrate by droplet spray distribution is known. A subsequent gas phase reaction with a chalkogen-containing reagent generates quantum dots in a polymer matrix. For generating any polymer-free matrices, the method according to the invention relates to applying the quantum dots (QD) from a precursor (PC) and subsequently bringing into contact the applied quantum dots (QD) and the uncovered substrate (SU) with a gas phase reagent (RG) which contains all of the components of the matrix (MA) which is to be generated, wherein a chemical reaction is brought about between the precursor (PC) and the reagent (RG) by raising the temperature simultaneously with or subsequent to said contact. Thus a composition concording between quantum dots (QD) and matrix (MA) can be generated, wherein the quantum dots (QD) have an additive composition made of the elements of precursor (PC) and reagent (RG), and the matrix (MA) has a composition made exclusively of the elements of the reagent (RG). Binary, ternary, or multinary compound semiconductors can be generated by an appropriate selection of elements and find use in nanooptics and nanoelectronics, and also in solar cells.

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

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