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(54) Title (EN): LIGAND EXCHANGE METHOD FOR QUANTUM DOT, AND QUANTUM DOT COMPLEX

(54) Title (FR): PROCÉDÉ D'ÉCHANGE DE LIGAND POUR POINT QUANTIQUE ET COMPLEXE DE POINTS QUANTIQUES

(54) Title (ZH): 一种量子点的配体交换方法及一种量子点复合物

(57) Abstract:

(EN): Disclosed are a ligand exchange method for a quantum dot, and a quantum dot complex. The ligand exchange method for a quantum dot comprises the steps: providing a first PAMAM dendrimer; converting an amino group in the first PAMAM dendrimer into a functional group containing a sulfhydryl group to obtain a second PAMAM dendrimer; and mixing the second PAMAM dendrimer with an oil-phase quantum dot in a non-polar solvent for ligand exchange to obtain a quantum dot. According to the present application, the second PAMAM dendrimer is bound to the surface of a quantum dot by means of a ligand exchange reaction; thus, both the stability and the solubility of the quantum dot can be improved.

(FR): L'invention concerne un procédé d'échange de ligands pour un point quantique, et un complexe de points quantiques. Le procédé d'échange de ligands pour un point quantique comprend les étapes suivantes : fourniture d'un premier dendrimère PAMAM ; conversion d'un groupe amino dans le premier dendrimère PAMAM en un groupe fonctionnel contenant un groupe sulfhydryle pour obtenir un second dendrimère PAMAM ; et mélange du second dendrimère PAMAM avec un point quantique en phase huileuse dans un solvant non polaire pour un échange de ligands pour obtenir un point quantique. Selon la présente invention, le second dendrimère PAMAM est lié à la surface d'un point quantique au moyen d'une réaction d'échange de ligand ; ainsi, à la fois la stabilité et la solubilité du point quantique peuvent être améliorées.

(ZH): 公开一种量子点的配体交换方法及一种量子点复合物,其中,所述量子点的配体交换方法包括步骤:提供一种第一PAMAM树形分子;将所述第一PAMAM树形分子中的氨基转变为含巯基的官能团,得到第二PAMAM树形分子;将所述第二

PAMAM树形分子与油相量子点在非极性溶剂中混合进行配体交换,得到所述量子点。本公开通过配体交换反应使第二PAMAM树形分子结合在量子点表面,可同时实现改善量子点的稳定性和溶解性。

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