

이온성 액체를 이용한 수계 양자 점 합성

Aqueous synthesis of quantum dots using functionalized ionic liquid

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Abstract : We report aqueous synthesis of cadmium telluride (CdTe) quantum dots(QDs) using imidazolium-based ionic liquids with various functional groups. The functionalized ionic liquids were designed to have thiol groups, and then phase transfer with aqueous or organic solvents can be adjusted by changing side chain lengths of the cation and the choice of anion. The quantum yield was obtained IL-functionalized CdTe QDs reached up to 40% by post-treatment method.

Key Words : Quantum dots, Ionic Liquids, Aqueous synthesis, CdTe