

Bio-inspired covalent crosslink for self-assembly of peptide

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Here we present biomimetic dityrosine crosslinked peptide nanostructures via one-step photopolymerization of tyrosine-rich short peptide (YYAYY) without aid of template or multistep process. This approach offers direct synthesis of hollow peptide nanocapsules and free-standing thin films. The crosslinked peptides provide strong durability and unique design and construction of alternative types of artificial chemical cells. This novel approach represents a rare example of self-assembly of peptides into nanoobjects with interesting features, potentially useful in applications including microcompartment and separation.