

Table S1 QDs’ types, grouping, full names, abbreviations and composition

Quantum dot types	Grouping	Full names	Abbreviations	Core composition	Shell	Ligand
Bare core	II–VI	Cadmium sulfide quantum dot	CdS QDs	CdS	-	-
		Cadmium selenide quantum dot	CdSe QDs	CdSe	-	-
		Cadmium telluride quantum dot	CdTe QDs	CdTe	-	-
		Zinc oxide quantum dots	ZnO QDs	ZnO	-	-
	IV–VI	Lead sulfide quantum dot	PbS QDs	PbS	-	-
	I–VI	Copper sulfide quantum dot	CuS QDs	PbS	-	-
		Silver selenide quantum dot	Ag ₂ Se QDs	Ag ₂ Se	-	-
	VI	Molybdenum disulfide quantum dot	MoS ₂ QDs	MoS ₂	-	-
Core--Ligand	II–VI	Mercaptopropionic acid-Cadmium telluride quantum dot	MPA-CdTe QDs	CdTe	-	MPA
Core--Shell		2-mercaptoacetic acid-Cadmium telluride quantum dot	TGA-CdTe QDs	CdTe	-	FGA
		Polyaluminum sulfate-Cadmium selenide quantum dot	PAS-CdSe QDs	CdSe	-	PAS
		Cadmium selenide/Zinc sulfide quantum dots	CdSe/ZnS QDs	CdSe	ZnS	-
		Cadmium telluride/Cadmium sulfide quantum dot	CdTe/CdS QDs	CdTe	CdS	-
Core--Shell--Ligand		Carboxyl-Cadmium selenide/Zinc sulfide quantum dots	COOH-CdSe / ZnS QDs	CdSe	ZnS	COOH
		Amino-Cadmium selenide/Zinc sulfide quantum dots	NH ₂ -CdSe / ZnS QDs	CdSe	ZnS	NH ₂
		Poly ethylene glycol-Cadmium selenide/Zinc sulfide quantum dots	PEG-CdSe/ZnS QDs	CdSe	ZnS	PEG
		Mercaptopropionic acid-Cadmium telluride quantum dot-Cadmium selenide/Zinc sulfide quantum dots	MPA-CdS/ZnS QDs	CdS	ZnS	MPA
		Poly ethylene glycol-Carboxyl-Cadmium selenide/Zinc sulfide quantum dots	PEG-COOH-CdS/ZnS QDs	CdS	ZnS	PEG-COOH

		Polyacrylic acid-ethylene glycol-Cadmium selenide/Cadmium zinc sulfide quantum dots	PAA-EG-CdSe/CdZnS QDs	CdSe	CdZnS	PAA-EG
		Anionic polymaleic anhydride-alt-1-octadecene-Cadmium selenide/Cadmium zinc sulfide quantum dots	PMAO-PEG-CdSe/CdZnS QDs	CdSe	CdZnS	PMAO-PEG
		Poly ethylene glycol-Cadmium selenide/Cadmium zinc sulfide quantum dots	PEI-CdSe/CdZnS	CdSe	CdZnS	PEI
Carbon-based	IV	Graphene quantum dots	GQDs	Graphene	-	-
		Graphene oxide quantum dots	GOQDs	Graphene oxide	-	-
		Carbon dots	CDs	Carbon	-	-
Silicon-based		Silicon quantum dots	SiQDs	Silicon	-	-