Table S1. CdSe based photocatalysts and their photo or soncatalytic applications.

Photocatalyst	Target	Experimental conditions	Activity	Ref.
CdSe nanotube (B.G.=1.7 eV)	Methylene Blue	Photocatalysis, 150-W xenon lamp (I = 100 W/m^2), 0.5 mg/L of Pollutant.	~35% (180 min)	[1]
Dy doped CdSe (B.G.=1.7 eV)	Anazolene sodium	Sonocatalysis, ultrasonic bath (150 W) 10 mg/L of Pollutant and 1000 mg/L of Cat.	91.3% (90 min)	[2]
CdSe quantum dots (B.G.=1.53 eV)	cefalexin	Photocatalysis, 300 W high pressure Hg lamp (UV, 365 nm), 15 mg/L of Pollutant and 500 mg/L of Cat.	70.34% (120 min)	[3]
CdSe and $CdSe/TiO_2$	4-chlorophenol	Photocatalysis, 300 W tungsten halogen lamp, 2.5×10^{-4} M of Pollutant and 200 mg/L of Cat.	~12% by CdSe and 32% by $CdSe/TiO_2$ (480 min)	[4]
Zn-doped CdSe	Methylene blue and moxifloxacin	Photocatalysis, UV-A (485 µW cm^{-2} , 300–440 nm with main peak at 365 nm) lamp, 5 mg/L of Pollutant and 200 mg/L of Cat for MB, 15 mg/L of Pollutant and 500 mg/L of Cat for MOX.	93% for MB (90 min), 81.6% for MOX (110 min)	[5]
Au-CdSe Pentapod Heterostructures	Rhodamine 6G	Photocatalysis, UV irradiation (365 nm), 2.18×10^{-6} M of Pollutant.	~88% (150 min)	[6]
CdSe and CdSe/C60	Methylene Blue	Photocatalysis, halogen lamps, 8 W, 1×10^{-5} M of Pollutant and 500 mg/L of Cat.	~95% (300 min) for CdSe/C60	[7]
CdSe and CdSe/CdS core–shell QDs	Methyl orange	Photocatalysis, halogen lamps, 8 W, 10 mg/L of Pollutant and 200 mg/L of Cat.	73% by CdSe and 92% by CdSe/CdS (60 min)	[8]
Vesicle CdSe	Tetracycline hydrochloride	Photocatalysis, 500 W Xe lamp, 20 mg/L of Pollutant and 500 mg/L of Cat.	78.82% (30 min)	[9]
K and Co codoped CdSe QDs	Tetracycline hydrochloride	Photocatalysis, 500 W Xe lamp, 20 mg/L of Pollutant and 500 mg/L of Cat.	~83% (30 min)	[10]
Gd-doped CdSe	Acid Blue 5	Sonocatalysis, ultrasonic bath 300 W/L, 10 mg/L of Pollutant and 100 mg/L of Cat.	86% (90 min)	[11]
Graphene quantum dots/CdSe	Methylene Blue	Sonocatalysis, ultrasonic bath 200 W/L, 20 mg/L of Pollutant and 100 mg/L of Cat.	90% (90 min)	[12]
CdSe–graphene	Methyl orange and Rhodamine B	Sonocatalysis, Ultrasonic apparatus 750 W, 1×10^{-4} M mg/L of Pollutant and 10000 mg/L of Cat.	100% for RhB (150 min), 94% for MO (150 min)	[13]
Tb doped CdSe	RB5	Sonophotocatalysis, 40W compact fluorescent visible light lamp and sonicator output intensity of 200 W, 20 mg/L of Pollutant and 1120 mg/L of Cat.	87.53% (60 min)	This Work

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