Electronic Supplementary Information (ESI)

Monodisperse and Size-Tunable PbS Colloidal Quantum Dots *via* Heterogeneous Precursors

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1. TEM characterization

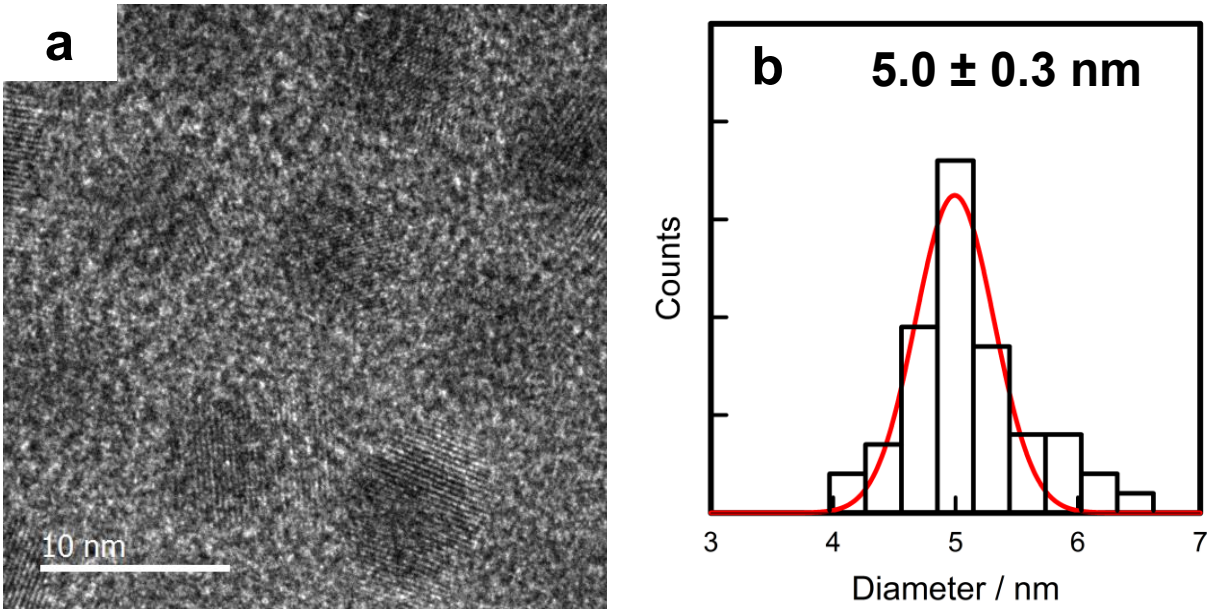

Fig. S1. (a) TEM image of PbS QDs obtained after a 1 h reaction time at elevated temperatures of 120 ºC (after the size focusing process) with an exciton peak wavelength of 1,520 nm. (b) The corresponding size histogram.

2. Reaction conditions and characterization results of PbS QDs shown in Fig. 3

Table S1. Absorption peak wavelength and HWHM for PbS QD aliquots withdrawn at various reaction temperatures. All syntheses followed the conditions described in the main text, pertaining to a 4:1 Pb:S precursor ratio.

	50°C		**80°C**		**100°C**		**120°C**	
Aliquot time (s)	Abs. peak (nm)	HWHM (meV)	Abs. peak (nm)	HWHM (meV)	Abs. peak (nm)	HWHM (meV)	Abs. peak (nm)	HWHM (meV)
20	886	95.0	939	86.5	969	69.0	1097	71.5
100	886	109	968	85	1016	70.5	1320	41.9
600	886	103	1025	63	1088	58.0	1376	42.0
1500	954	71.5	1060	62.5	1138	61.0	1404	49.2
3600	969	71.5	1098	64.3	1203	76.0	1433	72.5

3. Air stability

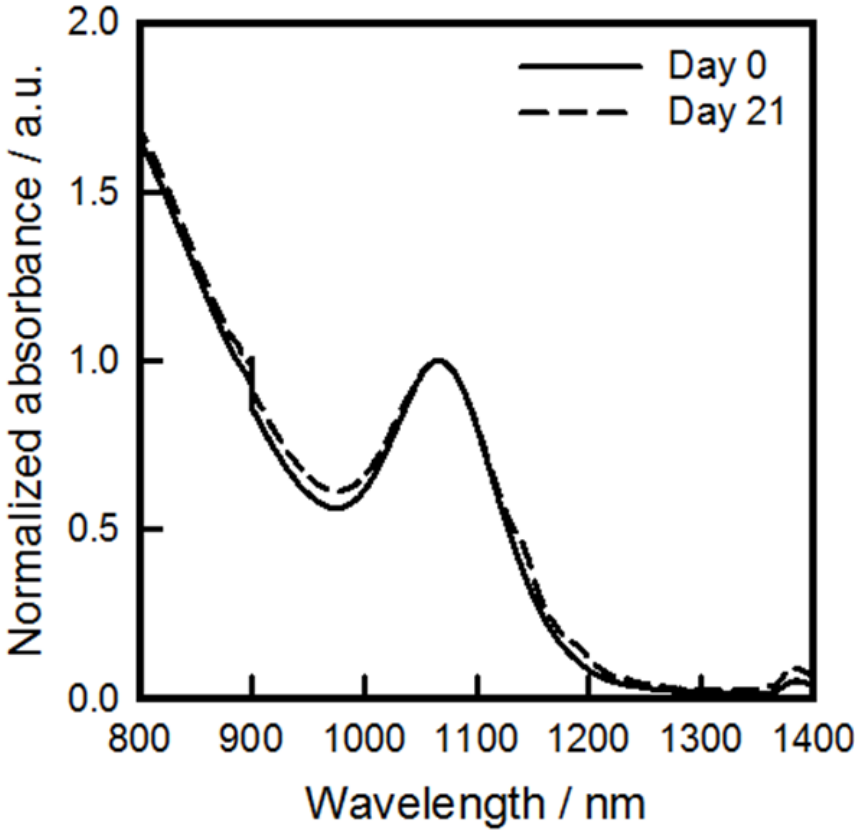

Fig. S2. Absorption spectra of 3.6 nm PbS QDs in toluene. The initially synthesized QD indicates an absorption peak at 1,070 nm (Day 0, solid line). The solution was kept in air and stored for three weeks, revealing that the peak position was maintained with minimal changes to the absorption spectrum (dashed line). The spectra were normalized at the exciton peak.