

Supplemental Figure 1

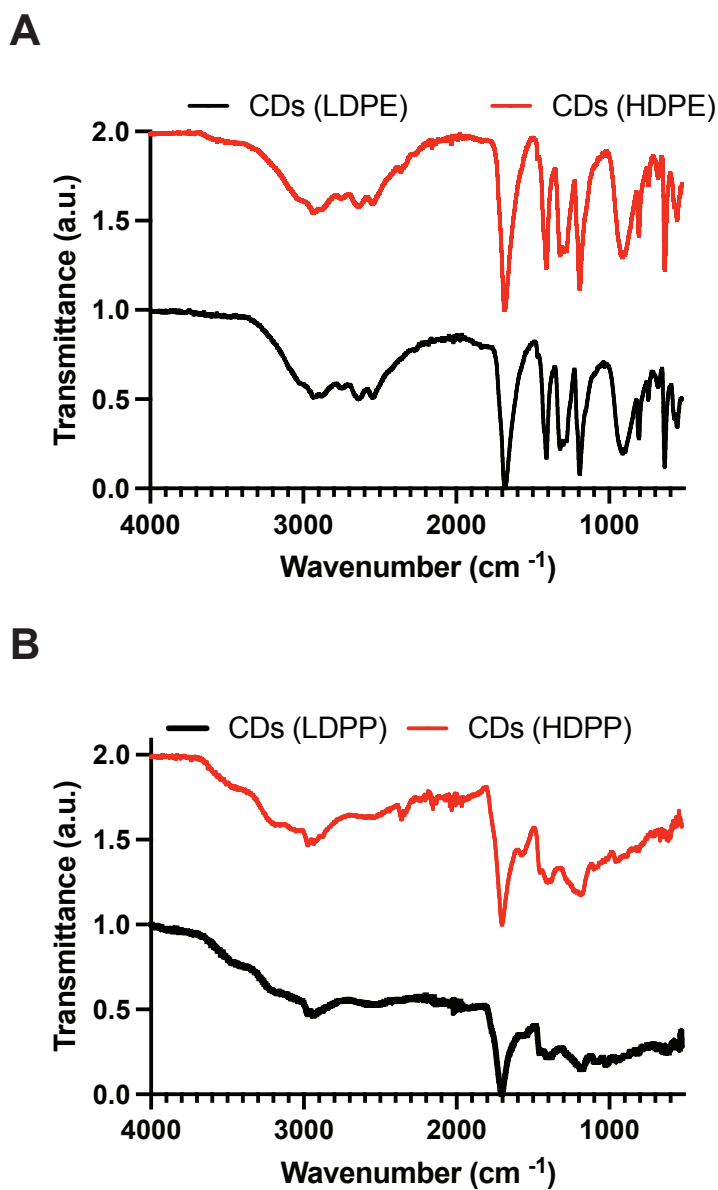
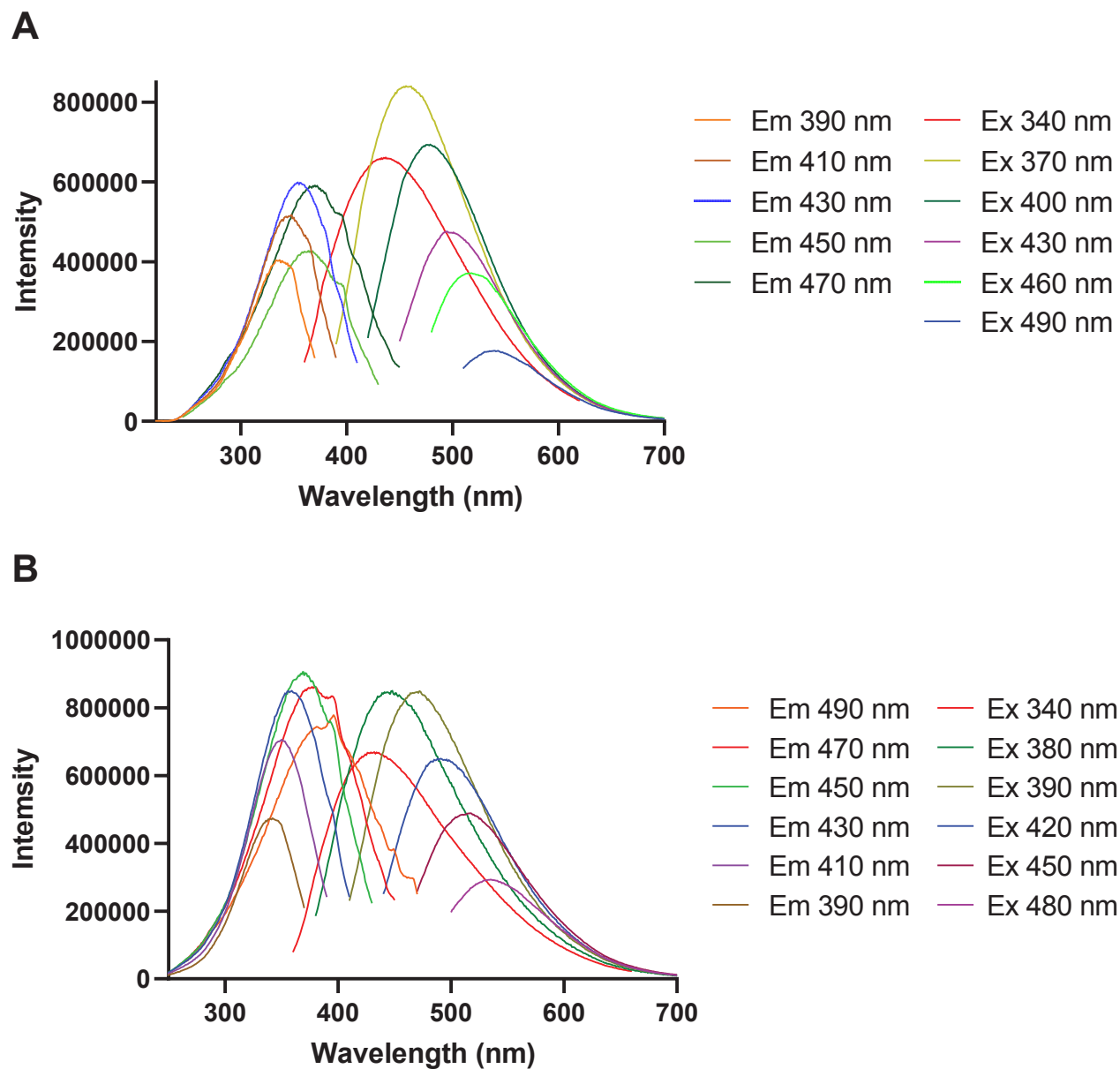


Figure S1. FTIR spectra for (A) LDPE- and HDPE-derived CDs and (B) LDPP- and HDPP-derived CDs.

Supplemental Figure 2



Supplemental Figure 3

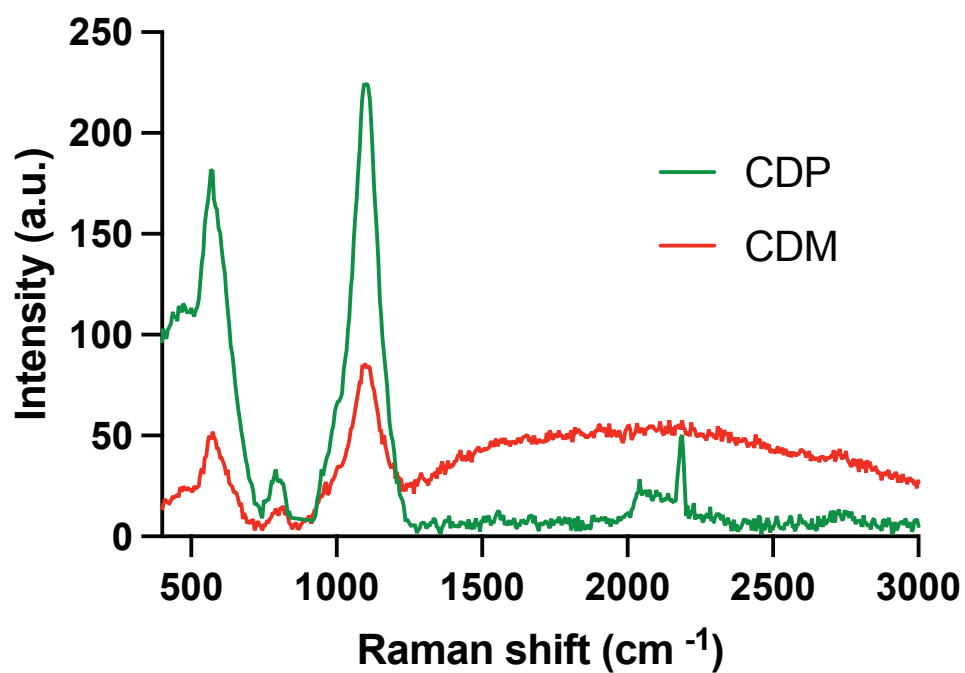
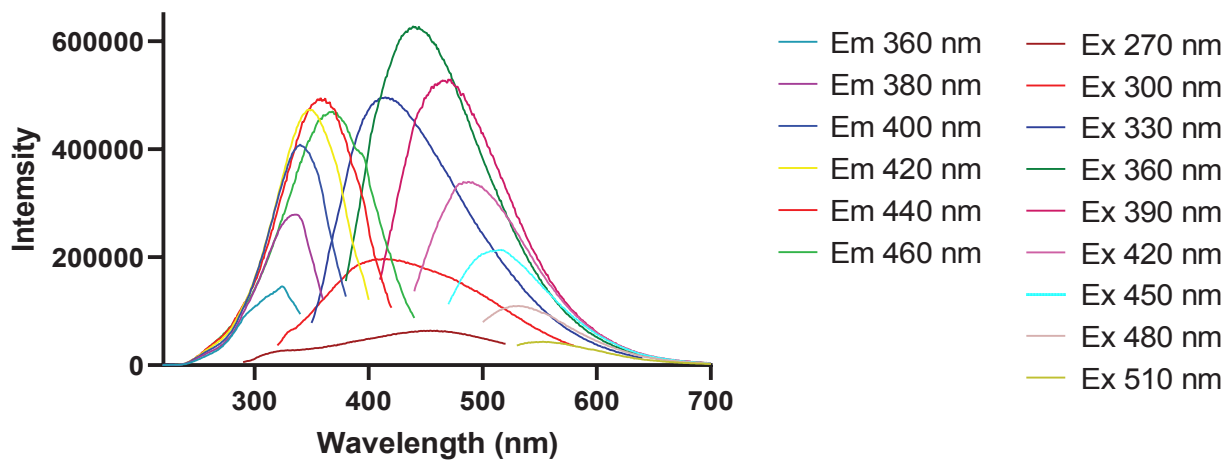


Figure S3. Raman spectra for mask-derived CDs (CDM) and bag-derived CDs (CDP).

Supplemental Figure 4

A



B

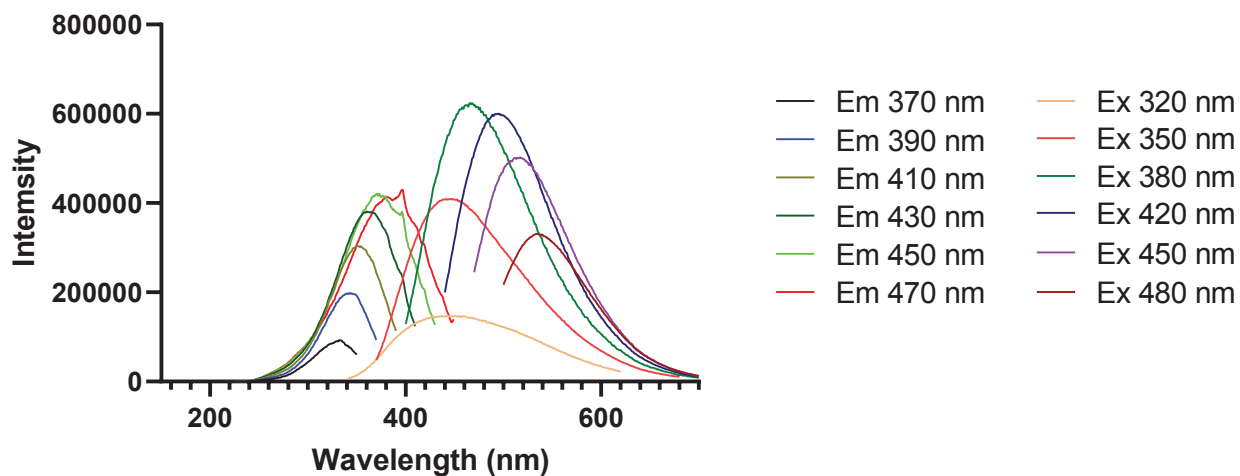


Figure S4. Emission-dependent excitation and excitation-dependent emission of (A) CDPC and (B) CDMC.

Supplemental Figure 5

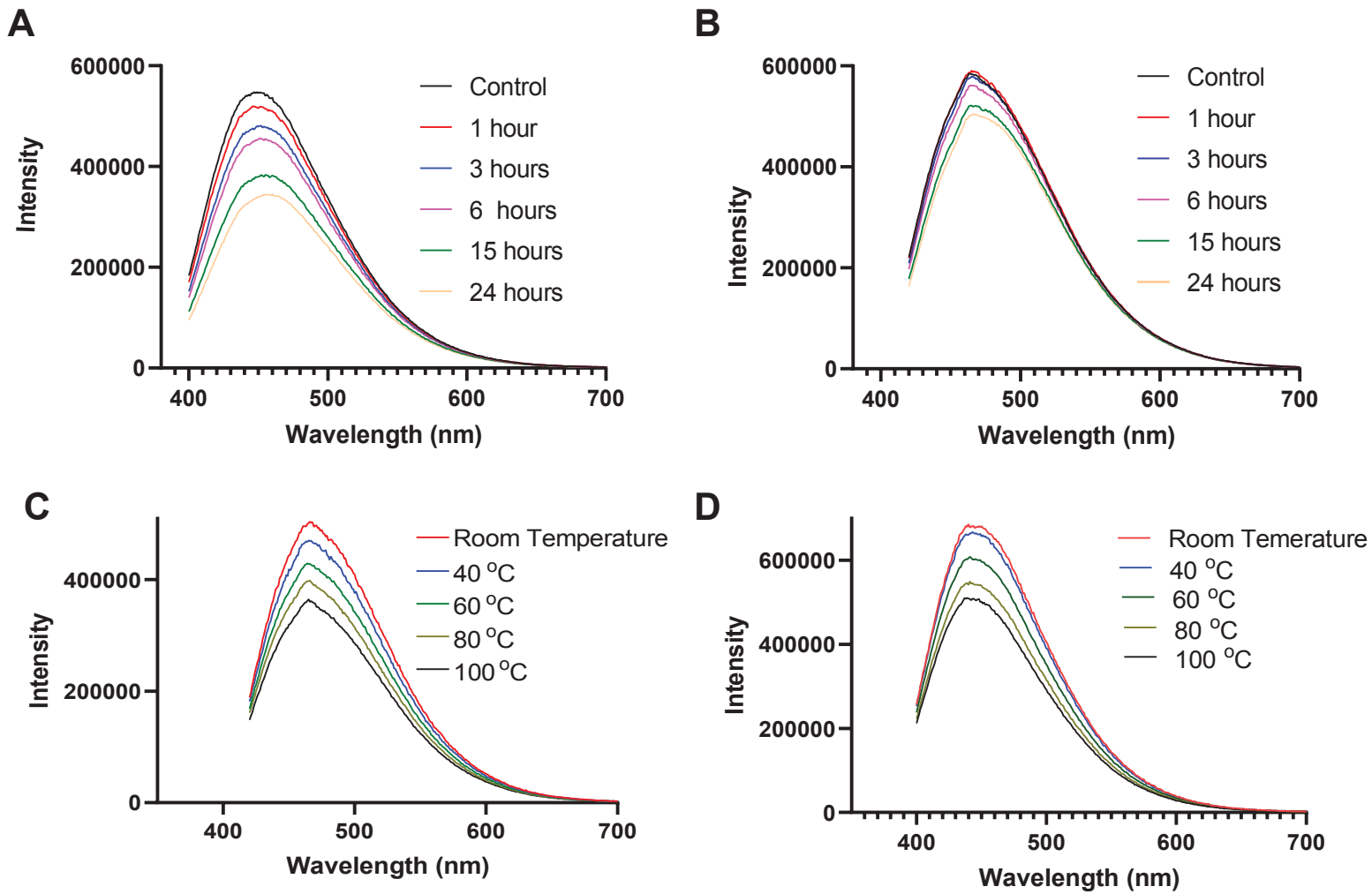


Figure S5. (A,B) Photostability test of (A) CDM and (B) CDP under continuous UV irradiation. (C,D) Thermal stability of (C) CDM and (D) CDP at different temperatures.

Supplemental Figure 6

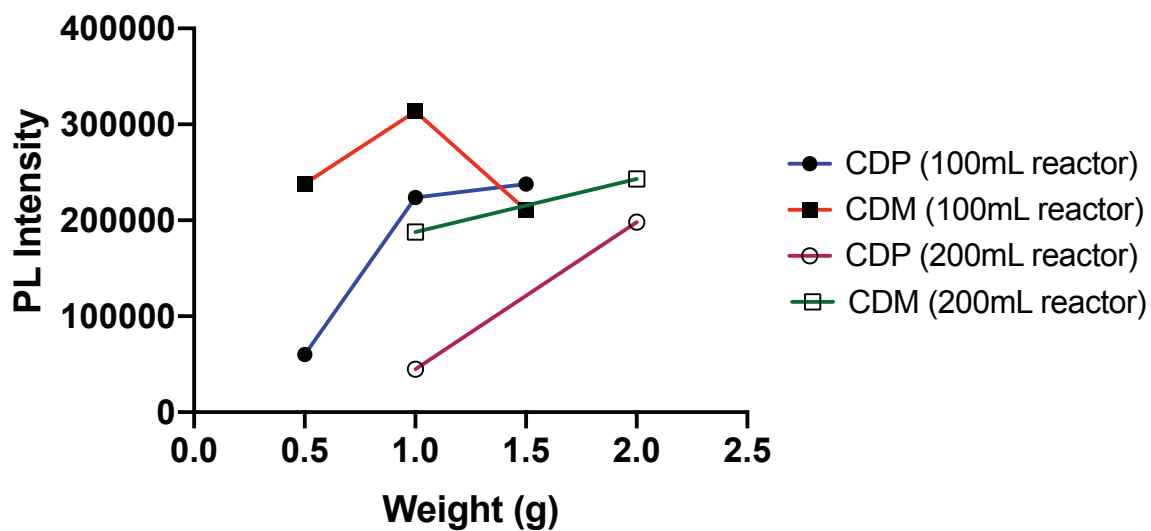


Figure S6. Photoluminescence intensity of CDP and CDM at different weights of plastic and mask loads using small (100 ml) and large (200 ml) autoclave reactors.

Supplemental Figure 7

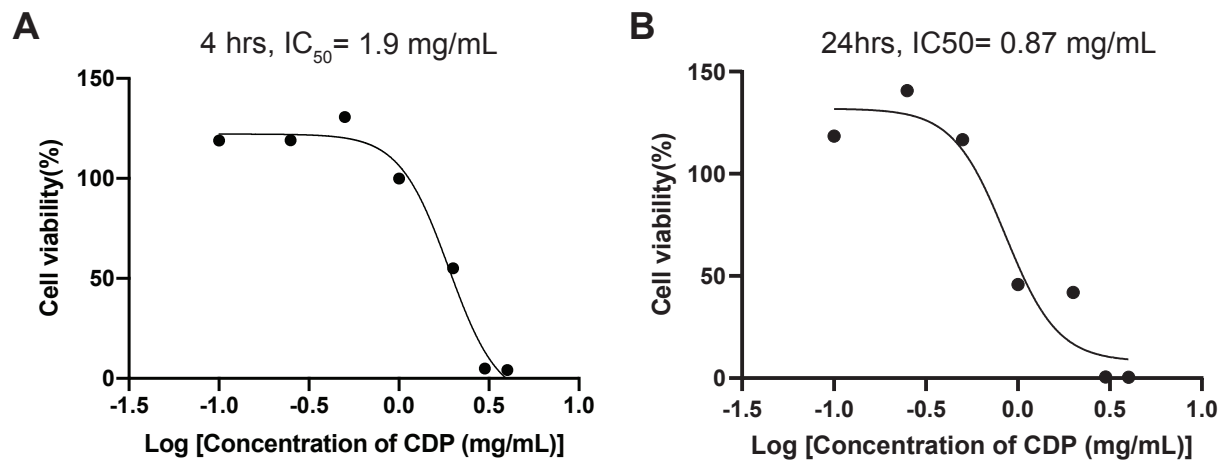


Figure S7. MTT assay results on the viability of HeLa cells after exposure to different concentrations (0.1, 0.25, 0.5, 1, and 2 mg/ml) of CDP after (A) 4 and (B) 24 hours of incubation.

Supplemental Figure 8

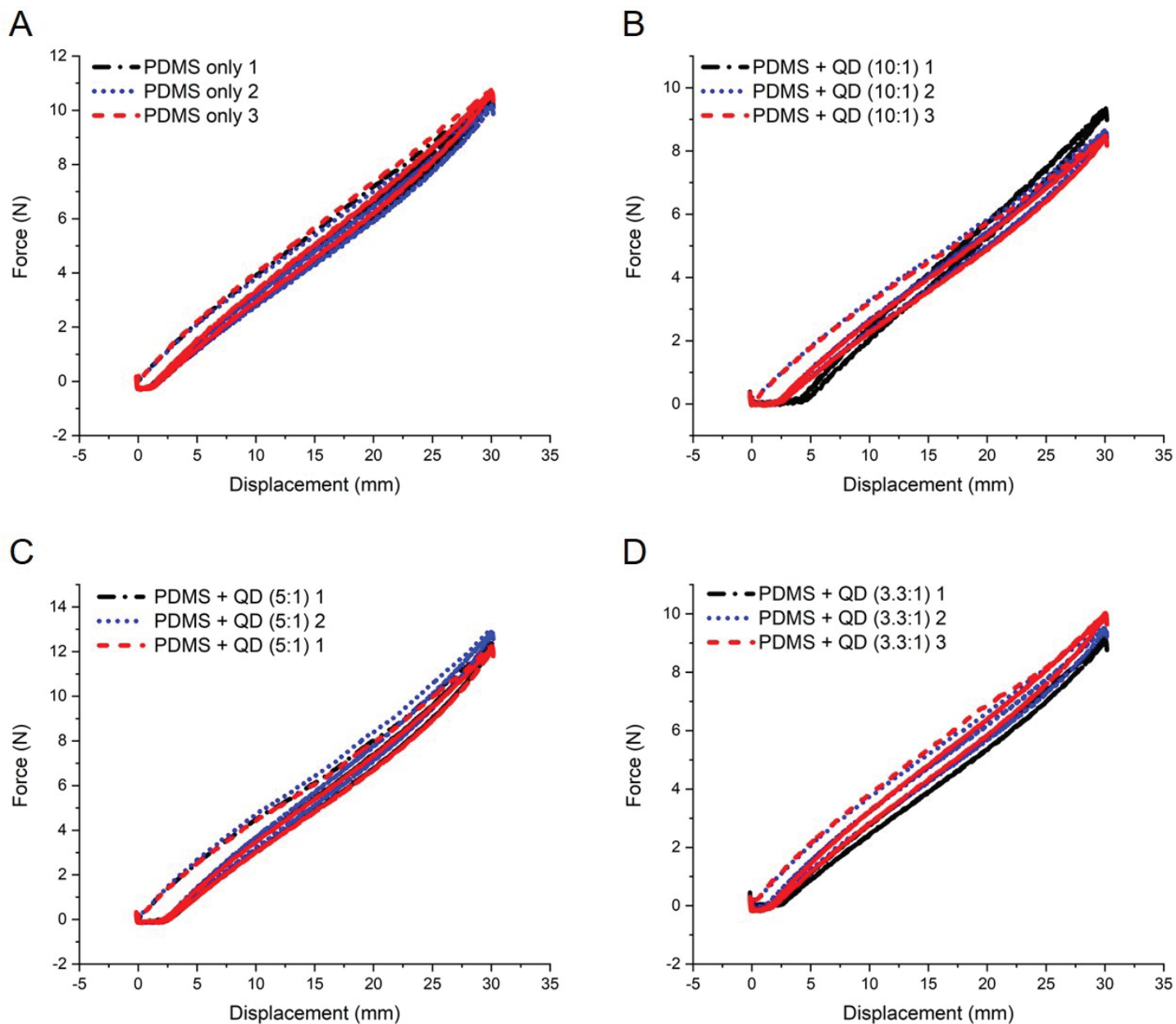


Figure S8. Cyclical deformation response of the QD doped PDMS. (A) Cyclical force-displacement response for the PDMS only control samples. (B) Cyclical force-displacement response for the PDMS + QD (10:1) samples. (C) Cyclical force-displacement response for the PDMS + QD (5:1) samples. (D) Cyclical force-displacement response for the PDMS + QD (3.3:1) samples.