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Supporting Information

Fabrication of Detonation Nanodiamond@Sodium Alginate Hydrogel Beads and Their Performance of Sunlight-Triggered Water Release

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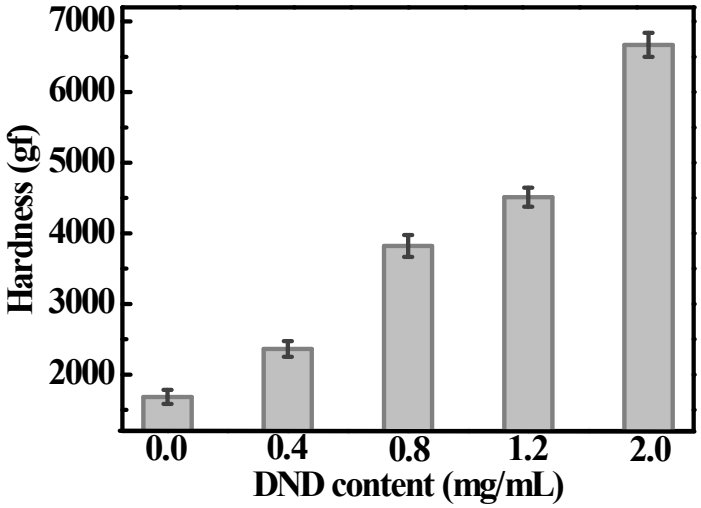

Figure S1. Mechanical property of SA-Ca beads and DND@SA hydrogel beads.

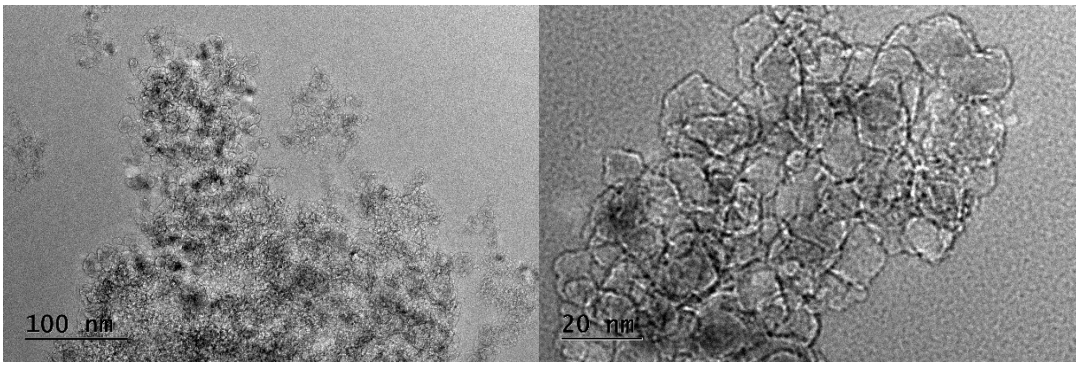

Figure S2. TEM images of DND.

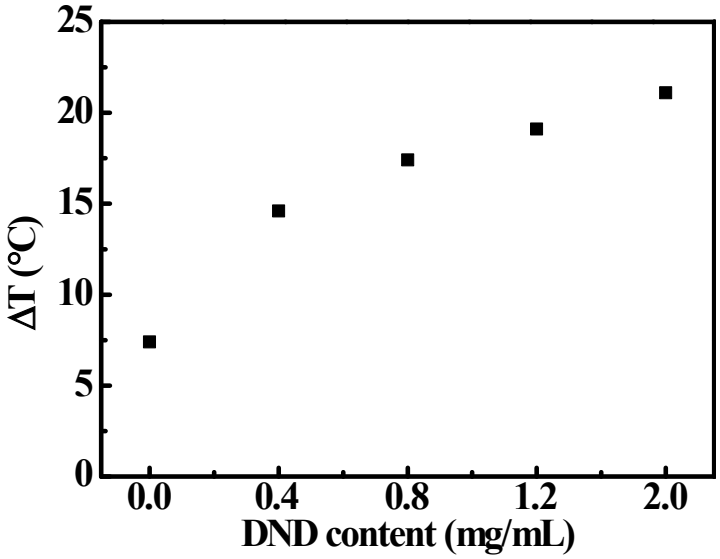

Figure S3. Plot of temperature change (ΔT) over a period of 10 min versus the distilled water containing DND@SA hydrogel beads with different DND concentrations.

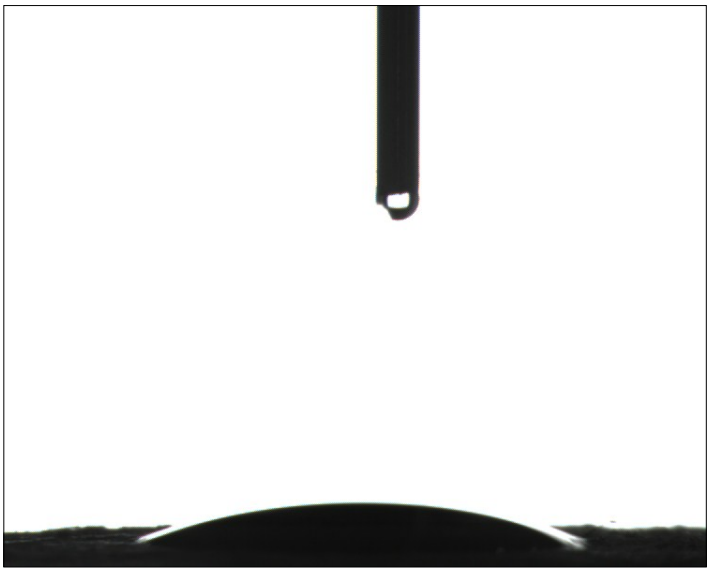

Figure S4. Water contact angle of DND at 500ms.

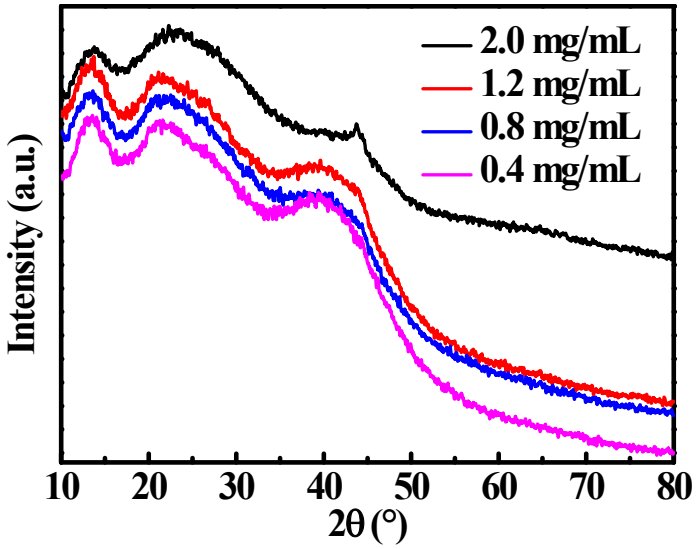

Figure S5. XRD of DND@SA hydrogel beads with different amount of DND.

Table S1 Kinetic parameters for the water adsorbency of DND@SA composite beads in distilled water

		Pseudo-first-order kinetic model			Pseudo-second-order kinetic model		
DND content	Se,exp (g g^{-1})	Se,cal (g g^{-1})	K_1 (min^{-1})	R^2	Se,cal (g g^{-1})	K_2 (g g^{-1} min^{-1})	R^2
0mg/mL	1.05	1.00	0.0189	0.9807	1.12	0.0182	0.9982
0.4mg/mL	1.38	2.02	0.0302	0.9422	1.43	0.0192	0.9974
0.8mg/mL	1.65	1.31	0.0235	0.9931	1.70	0.0279	0.9994
1.2mg/mL	1.49	1.59	0.0251	0.9525	1.55	0.0234	0.9991
2.0mg/mL	1.24	1.13	0.0182	0.9956	1.34	0.0166	0.9989