Superfast capturing of iodine from air, water, and organic solvent by potential dithiocarbamate-based organic polymer

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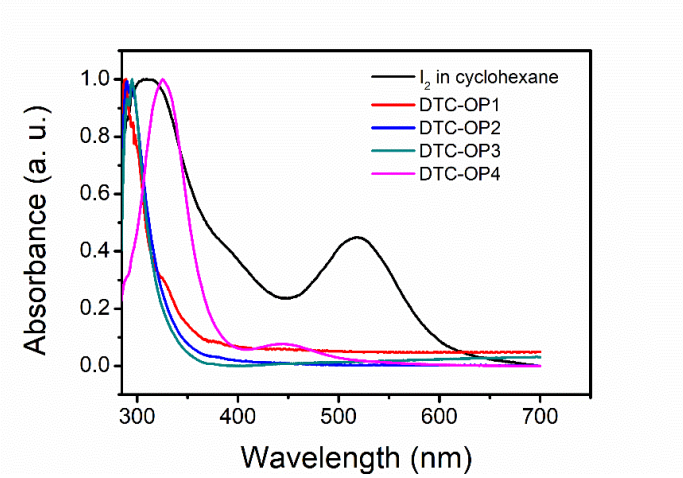

Figure S1. UV-visible spectra of I_2 in cyclohexane with the interaction of DTC-POPs.

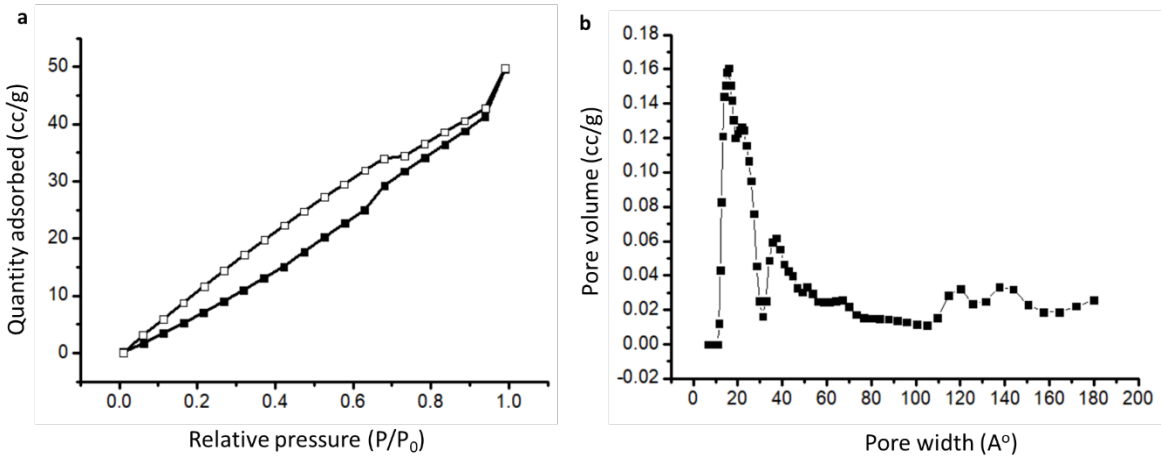

Figure S2. a) Nitrogen sorption isotherm of DTC-OP1 at 77 K. The solid shapes represent adsorption, and the hollow shapes represent desorption. **b)** NLDFT pore size distribution of DTC-OP1.

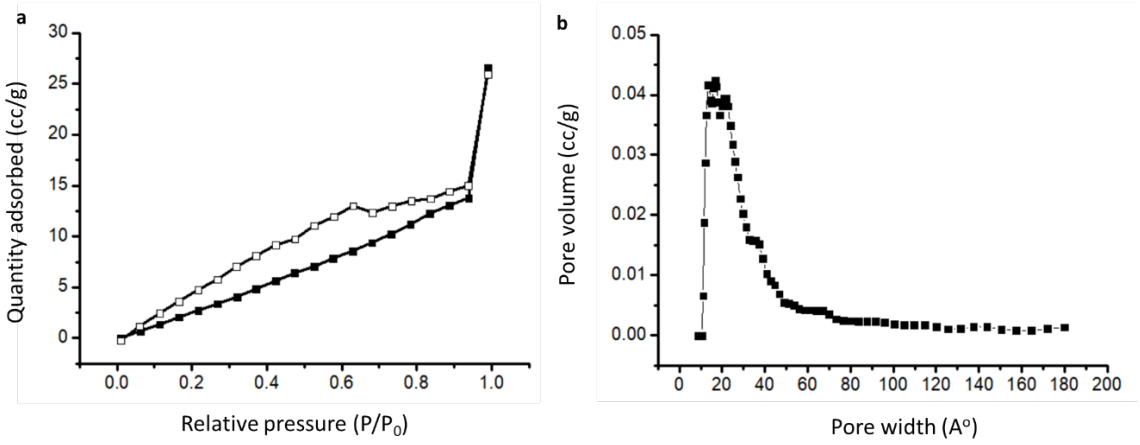

Figure S3. a) Nitrogen sorption isotherm of DTC-OP2 at 77 K. The solid shapes represent adsorption, and the hollow shapes represent desorption. **b)** NLDFT pore size distribution of DTC-OP2.

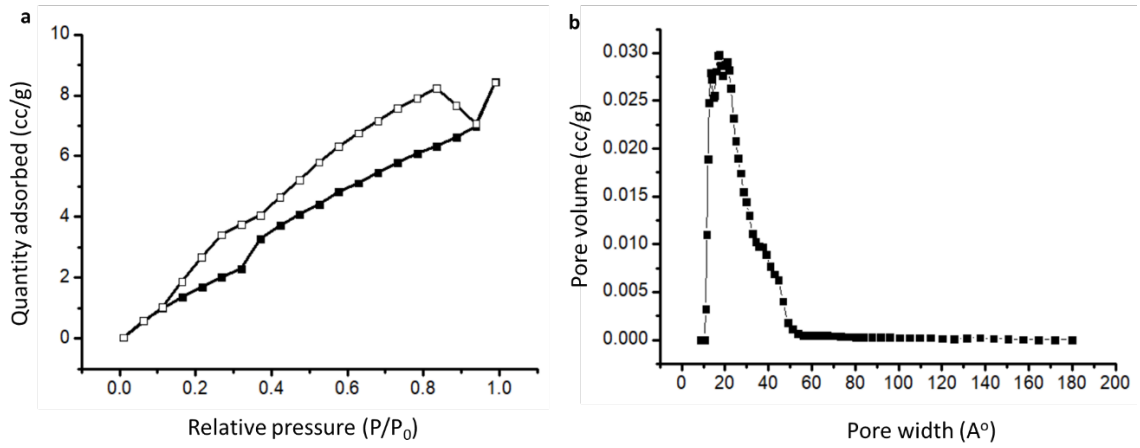

Figure S4. a) Nitrogen sorption isotherm of DTC-OP3 at 77 K. The solid shapes represent adsorption, and the hollow shapes represent desorption. **b)** NLDFT pore size distribution of DTC-OP3.

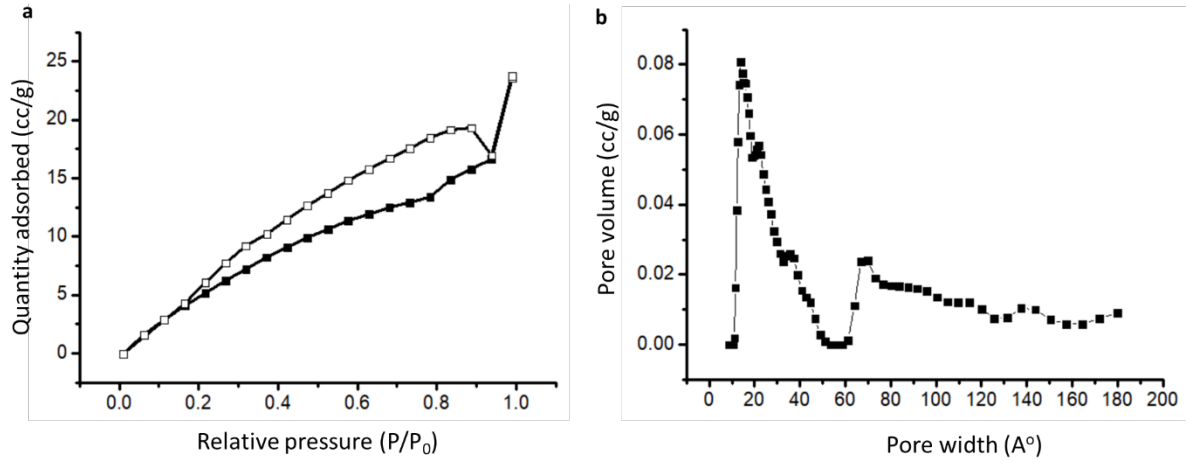

Figure S5. a) Nitrogen sorption isotherm of DTC-OP4 at 77 K. The solid shapes represent adsorption, and the hollow shapes represent desorption. **b)** NLDFT pore size distribution of DTC-OP4

Table S1. Porosity properties of DTC-OP. (Specific surface area was calculated from the nitrogen adsorption isotherm using the BET method in the relative pressure (P/P_0) range from 0.1 to 0.3, pore volume was calculated at $P/P_0 = 0.99$).

Material	BET surface area (m^2/g)	Pore volume (cc/g)	Pore size (nm)
DTC-OP1	90.119	0.0719	1.7055
DTC-OP2	27.198	0.0414	3.114
DTC-OP3	10.406	0.0137	2.508

DTC-OP4	34.476	0.0375	2.173

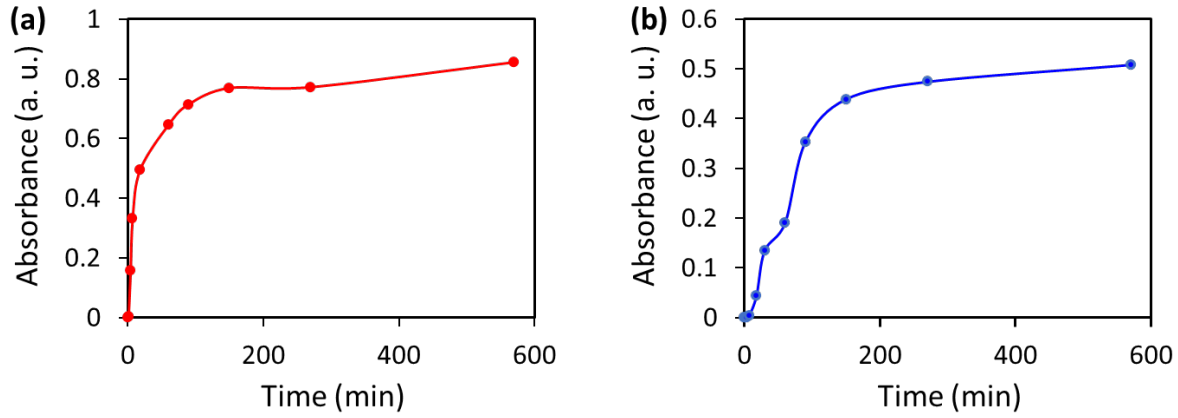

Figure S6. Release of adsorbed iodine to ethanol from **(a)** DTC-OP2 and **(b)** DTC-OP3

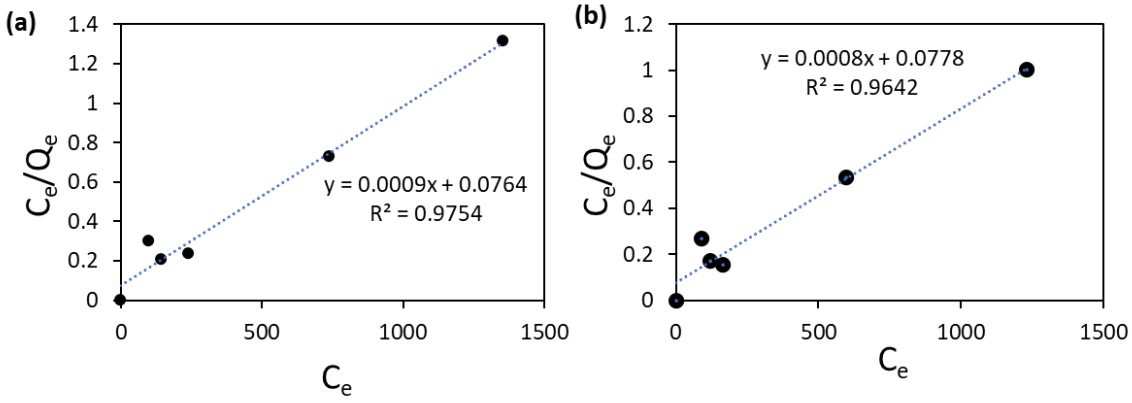

Figure S7. Langmuir adsorption isotherm for the adsorption of triiodide ions from water by **(a)** DTC-OP2 and (**b**) DTC-OP3

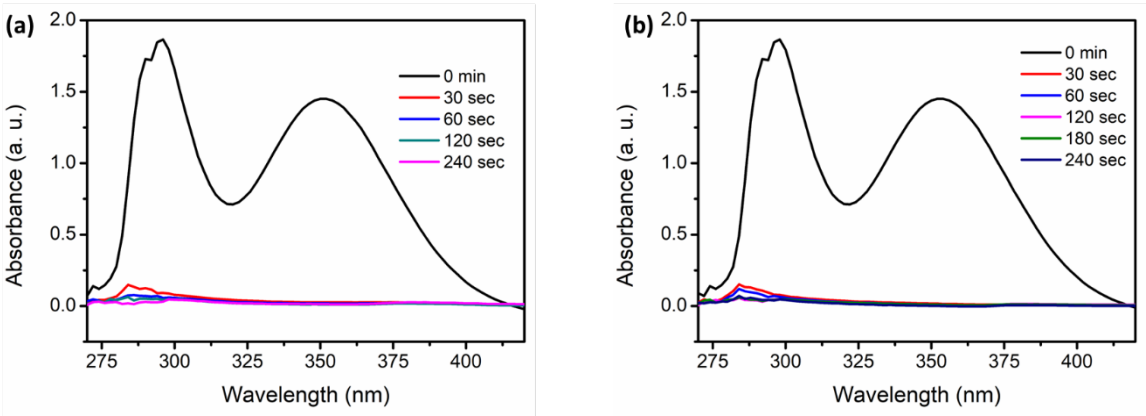

Figure S8. UV-vis spectrum for the kinetics of removal of triiodide ions from water by **(a)** DTC-OP2 and (**b**) DTC-OP3

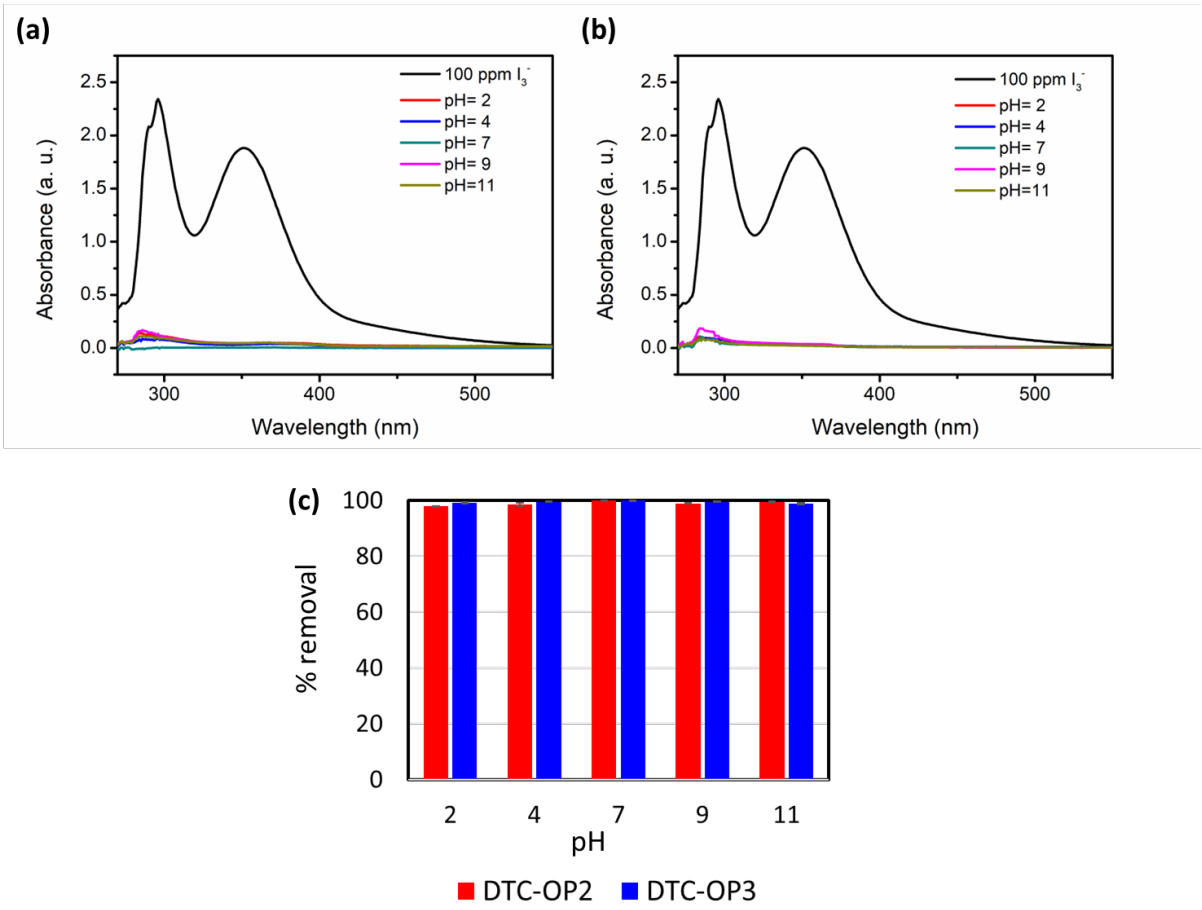

Figure S9. pH dependent studies on the adsorption of I_3^- from water by **(a)** DTC-OP2 **(b)** DTC-OP3 and **(c)** % removal at various pH