

Large, rapid swelling of high-*cis* polydicyclopentadiene aerogels suitable for solvent-responsive actuators

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Table S2. Formulations used for the synthesis of **PDCPD** xerogels and aerogels using the catalytic system **W₂/NBD**.^a

W₂/NBD/DCPD (molar ratio)	Catalyst (mg, mmol)	NBD (μ L, mmol)	DCPD^b (mL, mmol)	Gelation time (min)
1/5/350		10.2, 0.1		– ^c
1/10/350		20.4, 0.2		15
1/20/350	21.50, 0.02	40.8, 0.4	1.00, 7.0	10
1/30/350		61.2, 0.6		5
1/40/350		81.6, 0.8		3

^a Solvent: methylene dichloride (12 mL). ^b [DCPD] = 20% w/w. ^c No gelation was observed within 72 h.

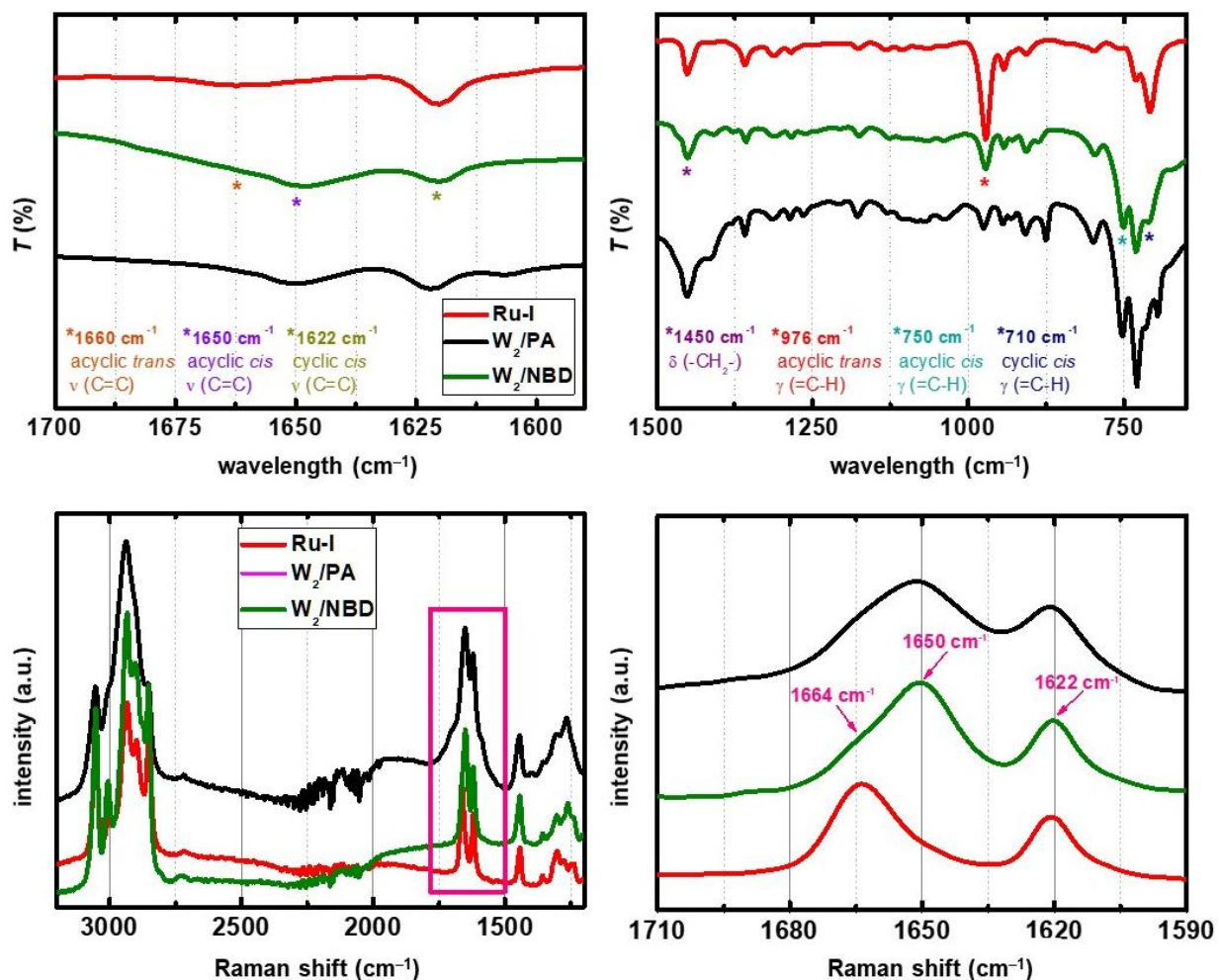


Figure S1. Top row: ATR-FTIR spectra (left: 1700-1590 cm^{-1} ; right: 1500-675 cm^{-1}) of **PDCPD** aerogels and xerogels obtained from ROMP of **DCPD** with three catalytic systems, as indicated. Bottom row: FT-Raman spectra (left: 3200-1200 cm^{-1} ; right: 1710-1590 cm^{-1}) of **PDCPD** aerogels and xerogels obtained from the ROMP of **DCPD** with three catalytic systems, as indicated.

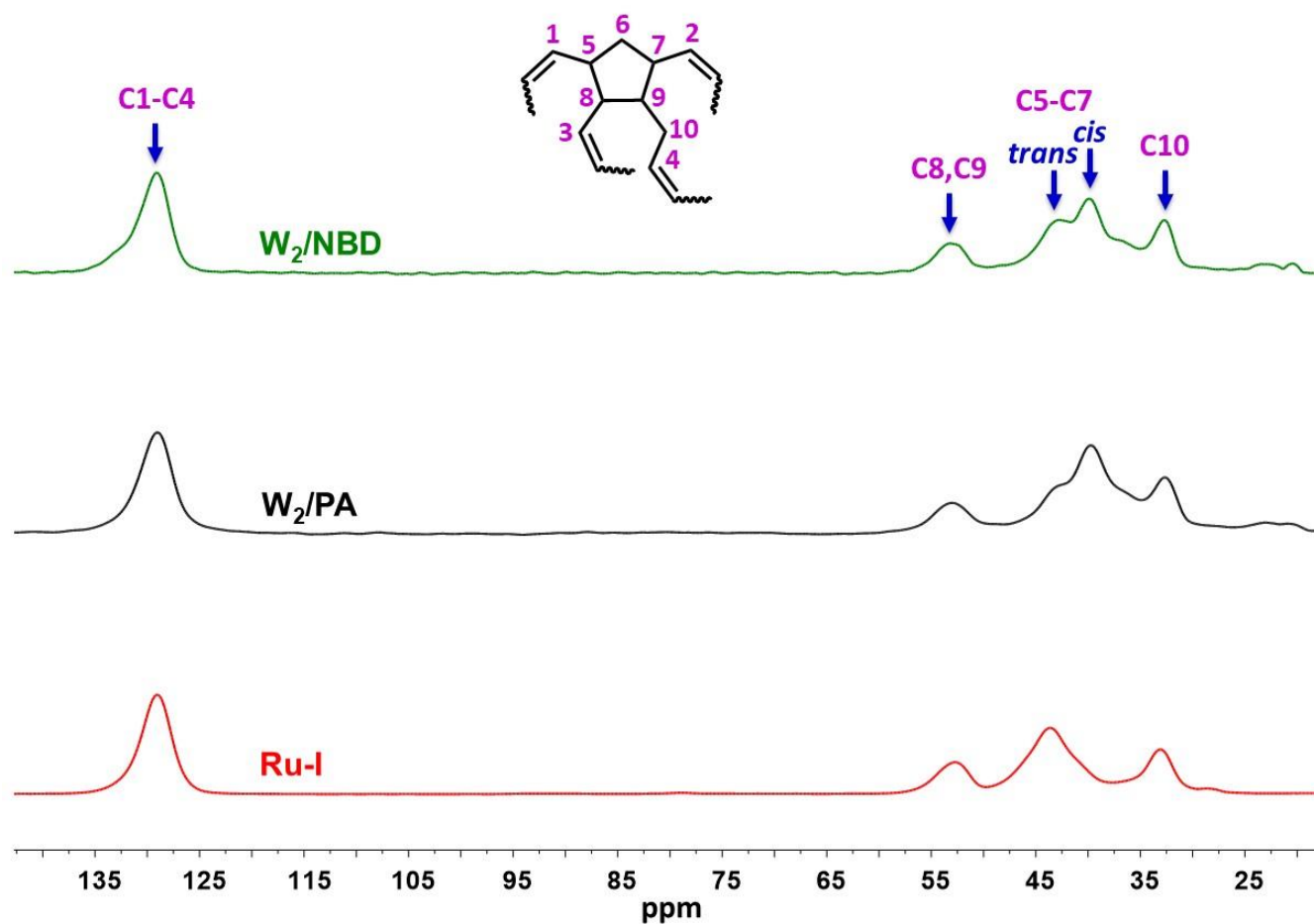


Figure S2. ^{13}C CPMAS NMR spectra of PDCPD aerogels obtained from ROMP of DCPD with three catalytic systems, as indicated.

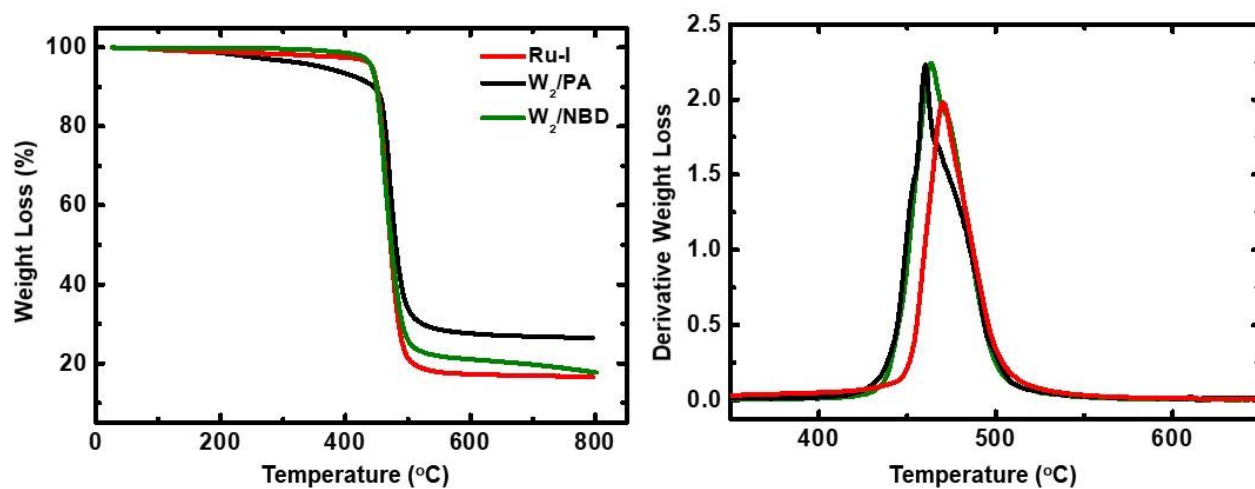


Figure S3. Weight loss with temperature (left) and derivative weight loss with temperature (right) of PDCPD aerogels and xerogels obtained from the ROMP of DCPD with three catalytic systems, as indicated.

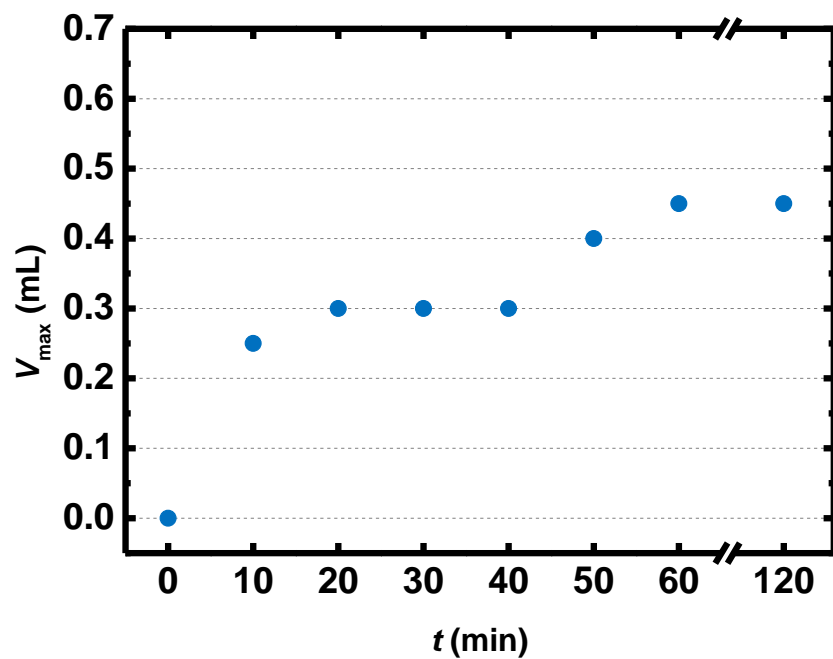


Figure S4. Swelling of a PDCPD aerogel thin disk in toluene *versus* time.

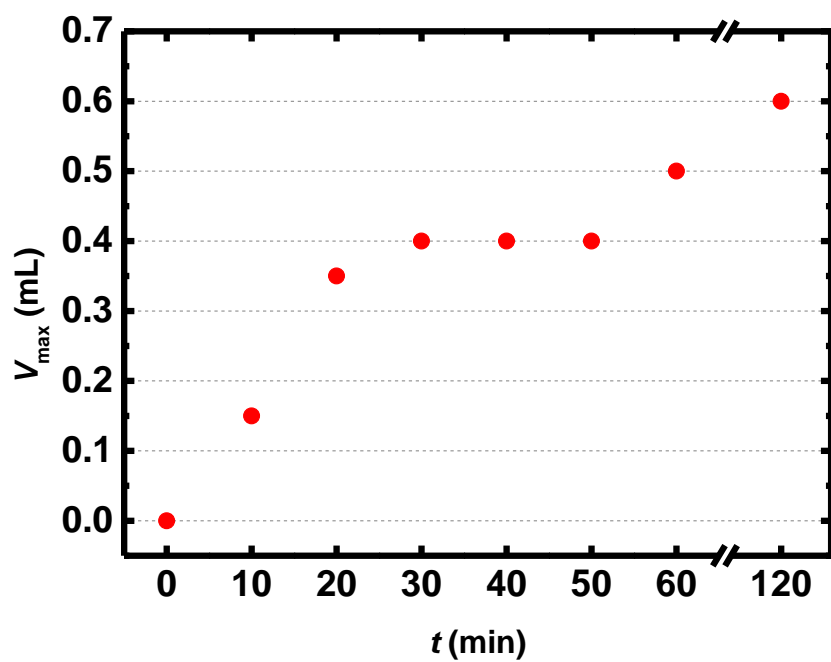


Figure S5. Swelling of a PDCPD aerogel thin disk in dichloromethane *versus* time.

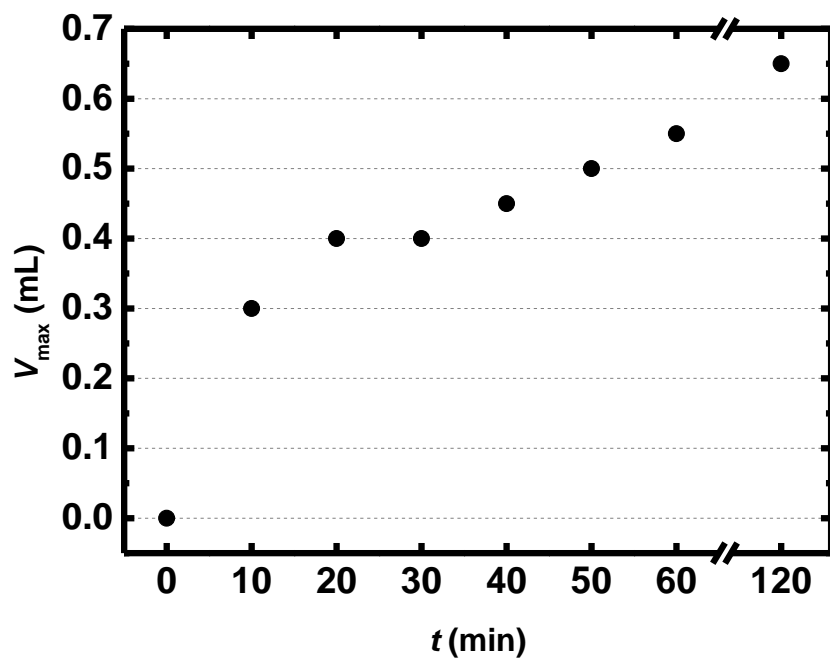


Figure S6. Swelling of a PDCPD aerogel thin disk in chloroform *versus* time.

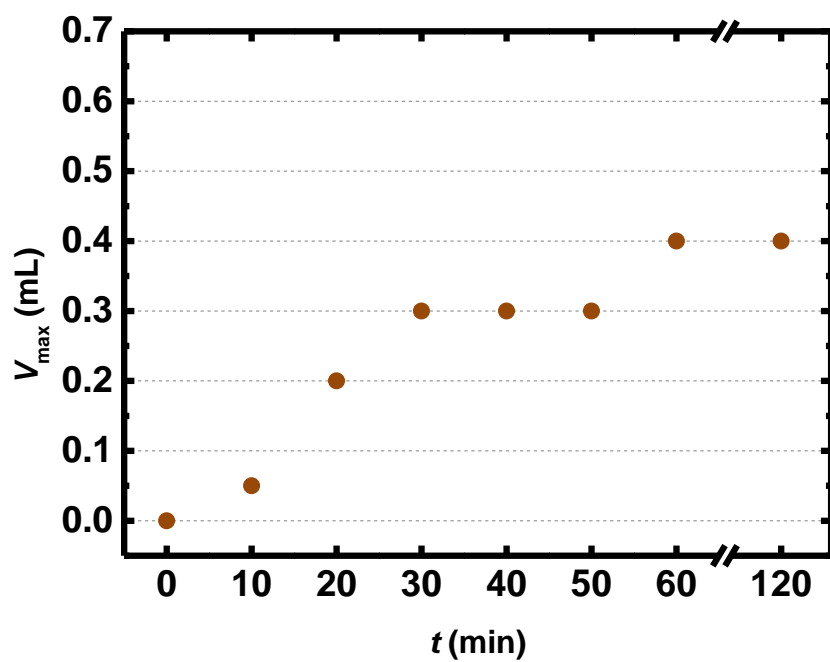


Figure S7. Swelling of a PDCPD aerogel thin disk in chlorobenzene *versus* time.

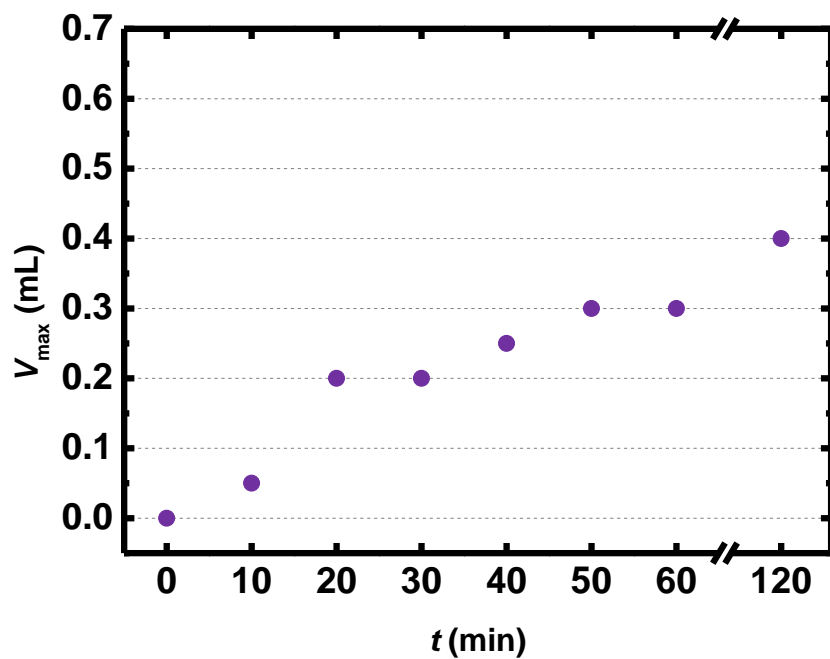


Figure S8. Swelling of a PDCPD aerogel thin disk in bromobenzene *versus* time.

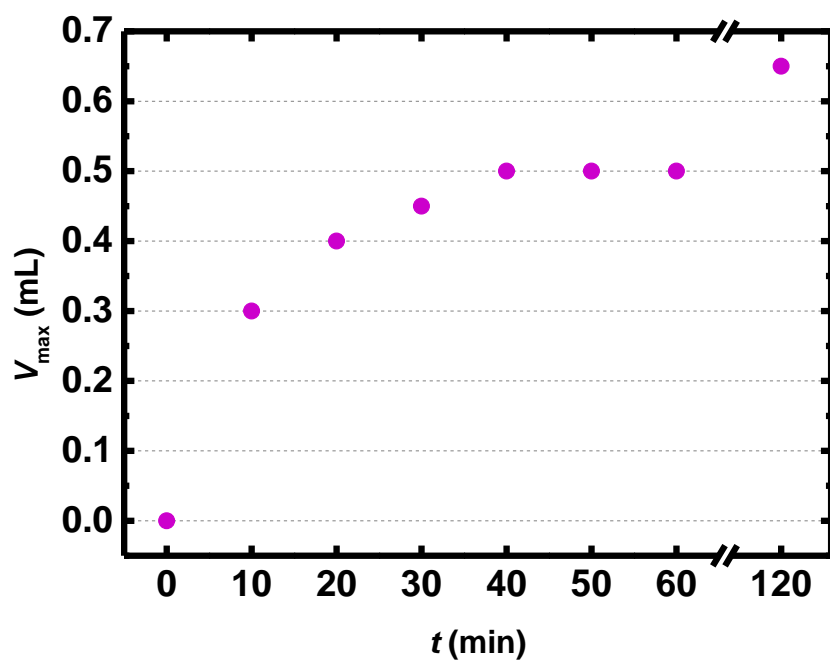


Figure S9. Swelling of a PDCPD aerogel thin disk in THF *versus* time.

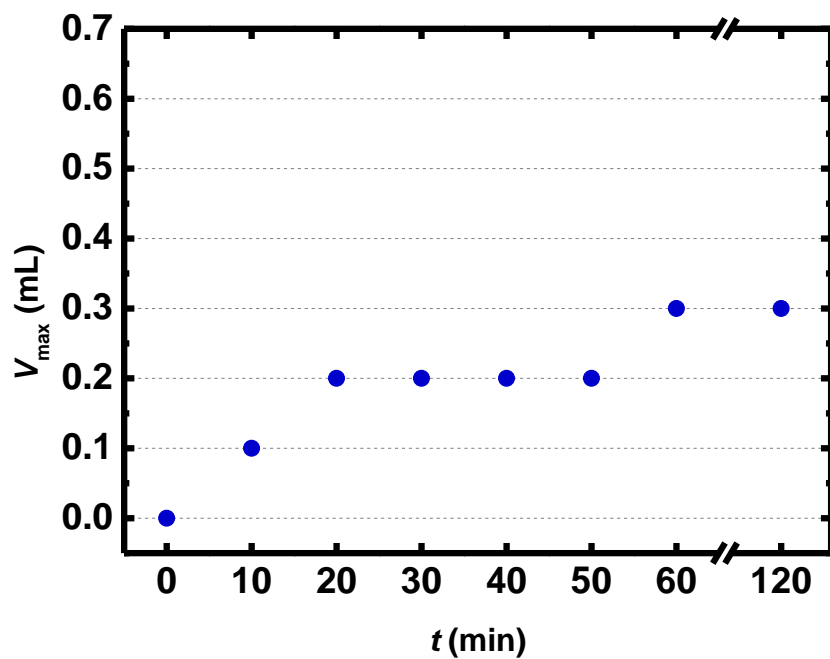


Figure S10. Swelling of a PDCPD aerogel thin disk in 1-bromobutane *versus* time.

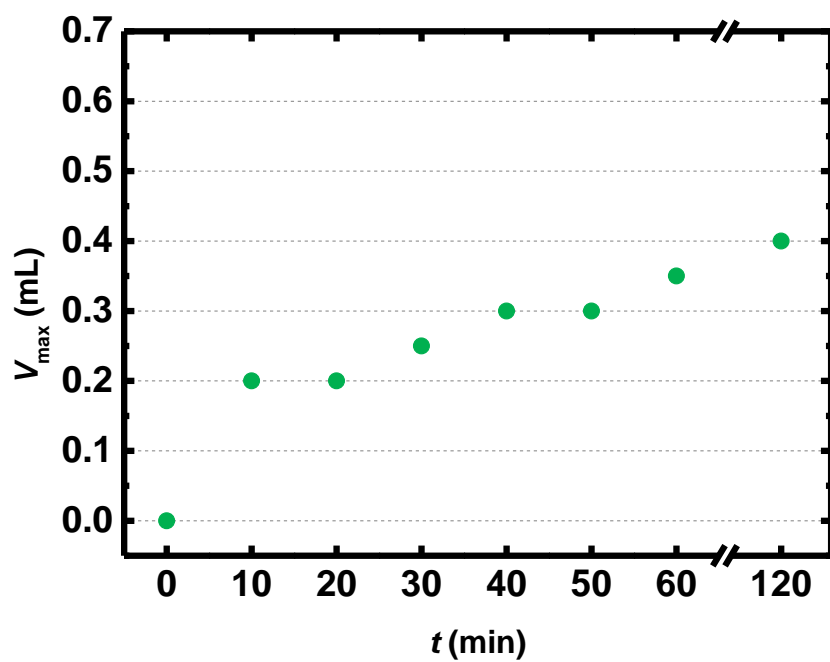


Figure S11. Swelling of a PDCPD aerogel thin disk in ethyl bromide *versus* time.

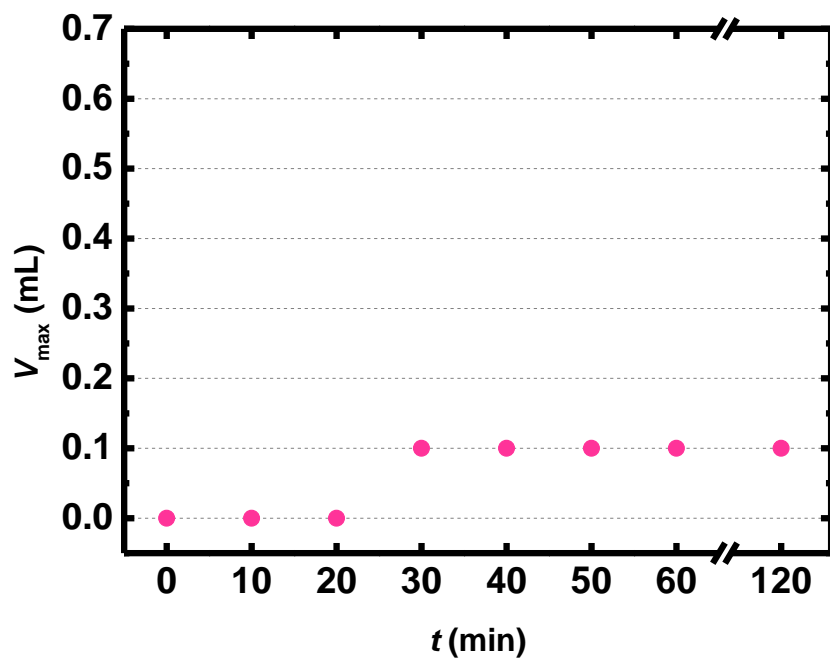


Figure S12. Swelling of a PDCPD aerogel thin disk in ethylene dichloride *versus* time.

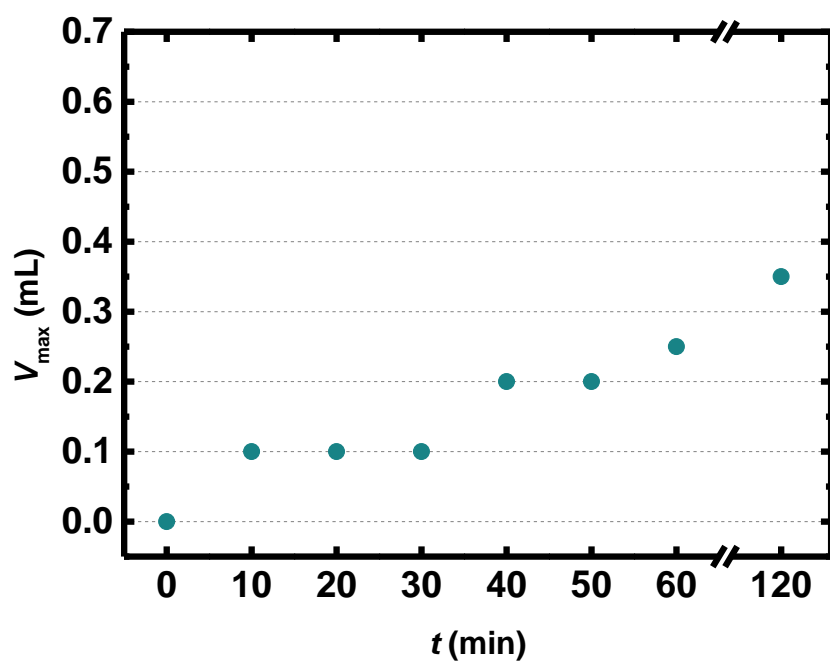


Figure S13. Swelling of a PDCPD aerogel thin disk in *m*-xylene *versus* time.

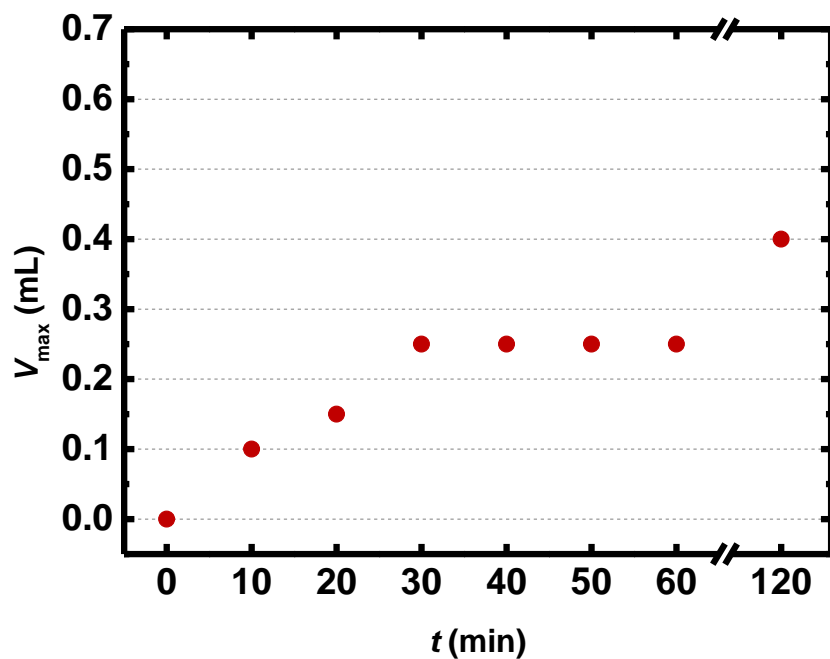


Figure S14. Swelling of a PDCPD aerogel thin disk in *p*-xylene *versus* time.

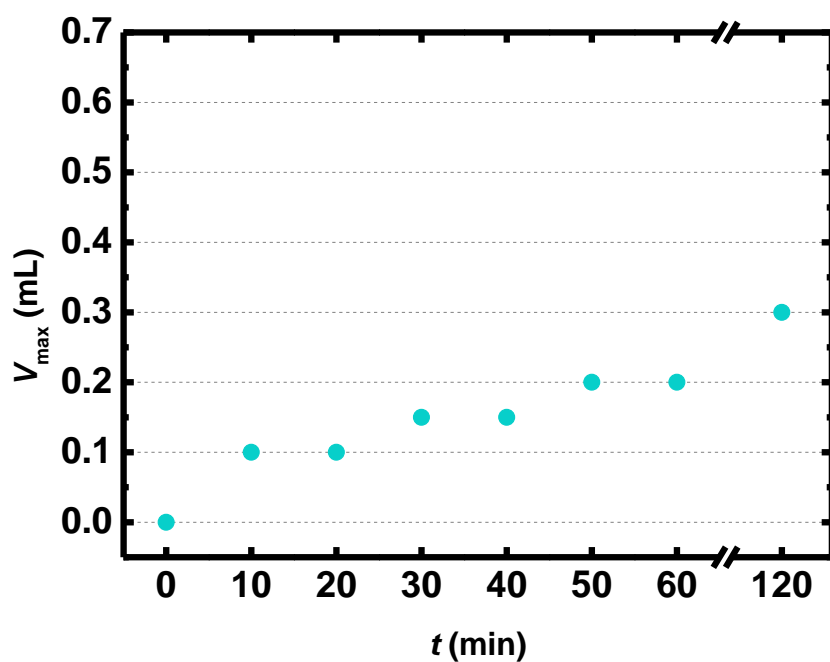


Figure S15. Swelling of a PDCPD aerogel thin disk in mesitylene *versus* time.