

## Supporting Information

# Excellent Performance of Aromatic Polyguanamines Induced by Multiple Hydrogen Bondable Tetraazacalix[2]arene[2]-triazine Ring in their Main Chain

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Caption to Figures

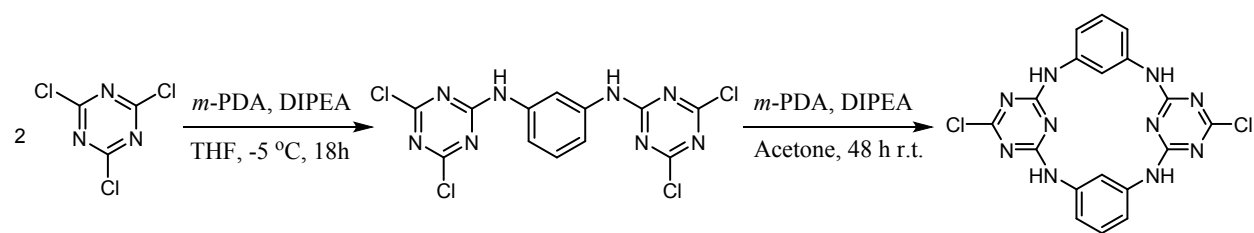
Figure S1.  $^1\text{H}$  NMR spectrum of  $m\text{PDA}_2\text{CyC}_2$  in  $\text{DMSO-}d_6$

Figure S2.  $^{13}\text{C}$  NMR spectrum of  $m\text{PDA}_2\text{CyC}_2$  in  $\text{DMSO-}d_6$

Figure S3. FAB MS spectrum of  $m\text{PDA}_2\text{CyC}_2$  (Found:  $m/z = 443.0062$  ( $\text{C}_{18}\text{H}_9\text{Cl}_2\text{N}_6\text{O}_4$ ) Err [ppm / mmu] = +2.0 / +0.9)

Figure S4.  $^1\text{H}$  NMR spectra of PG polymers in  $\text{DMSO-}d_6$

Figure S5. TMA profiles of  $c$ -PG polymer films



Scheme S1. Synthesis of *mPDA*<sub>2</sub>*CyC*<sub>2</sub>

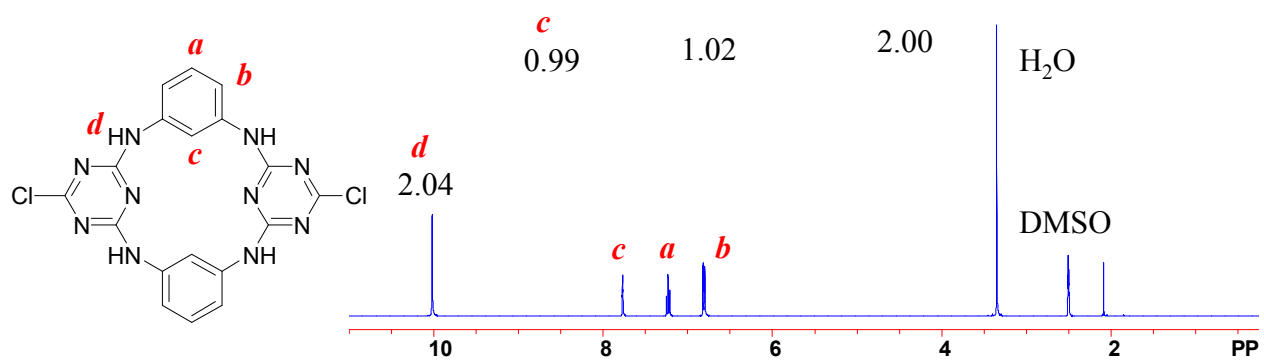


Figure 1S. <sup>1</sup>H NMR spectrum of *m*PDA<sub>2</sub>CyC<sub>2</sub> in DMSO-*d*<sub>6</sub>

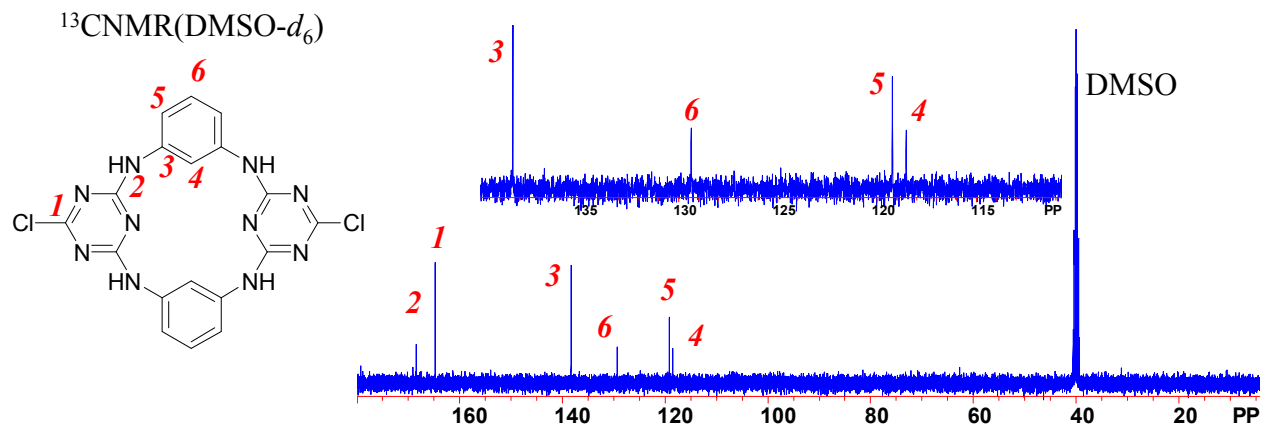


Figure 2S.  $^{13}\text{C}$  NMR spectrum of  $m\text{PDA}_2\text{CyC}_2$  in  $\text{DMSO-}d_6$

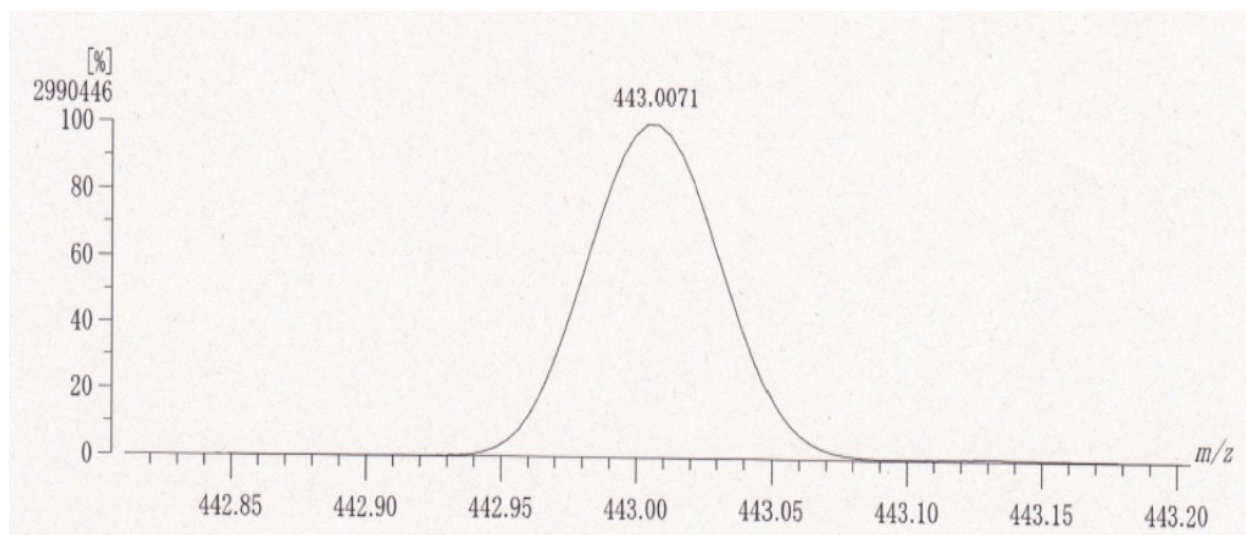


Figure 3S. FAB MS spectrum of  $mPDA_2CyC_2$  (Found:  $m/z = 443.0062$  ( $C_{18}H_9Cl_2N_6O_4$ ) Err [ppm / mmu] = +2.0 / +0.9)

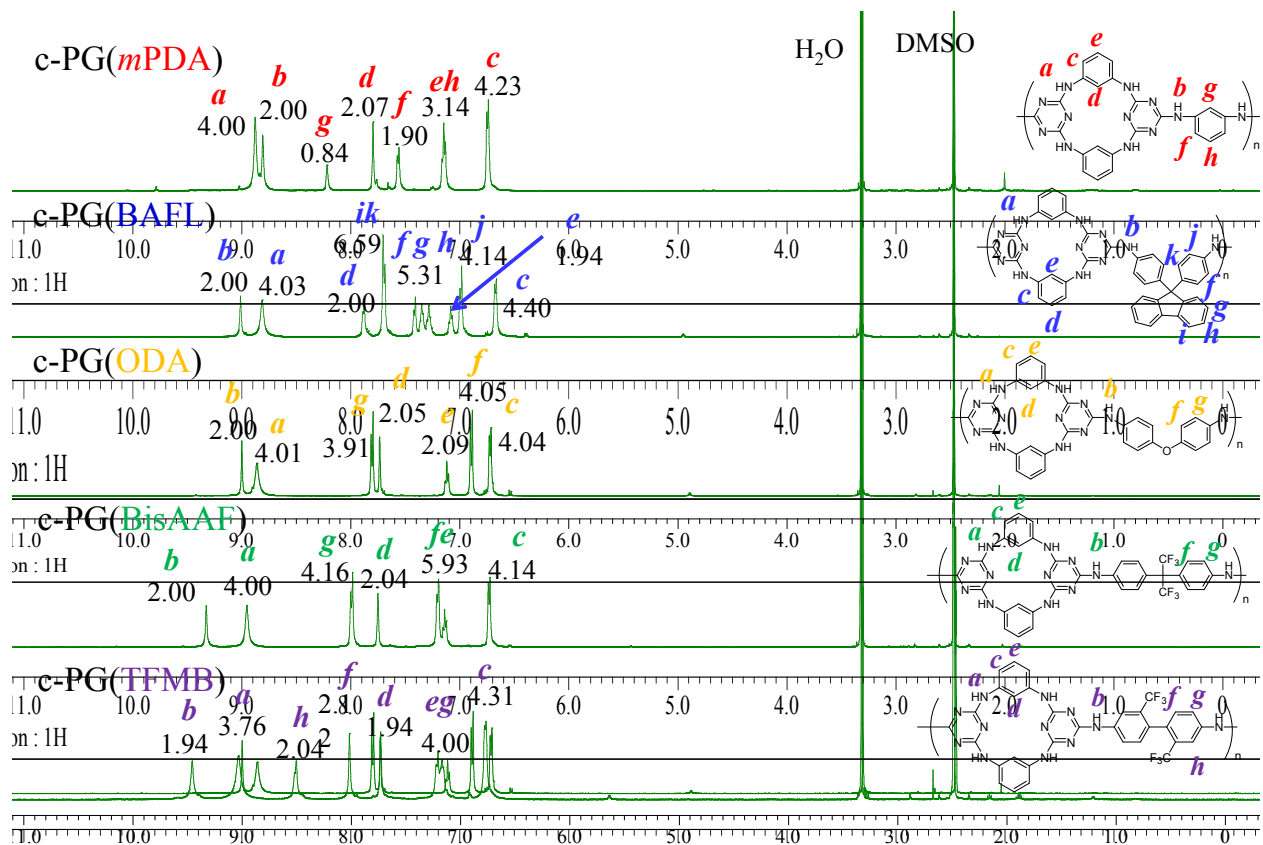


Figure 4S.  $^1\text{H}$  NMR spectra of PG polymers in  $\text{DMSO-}d_6$

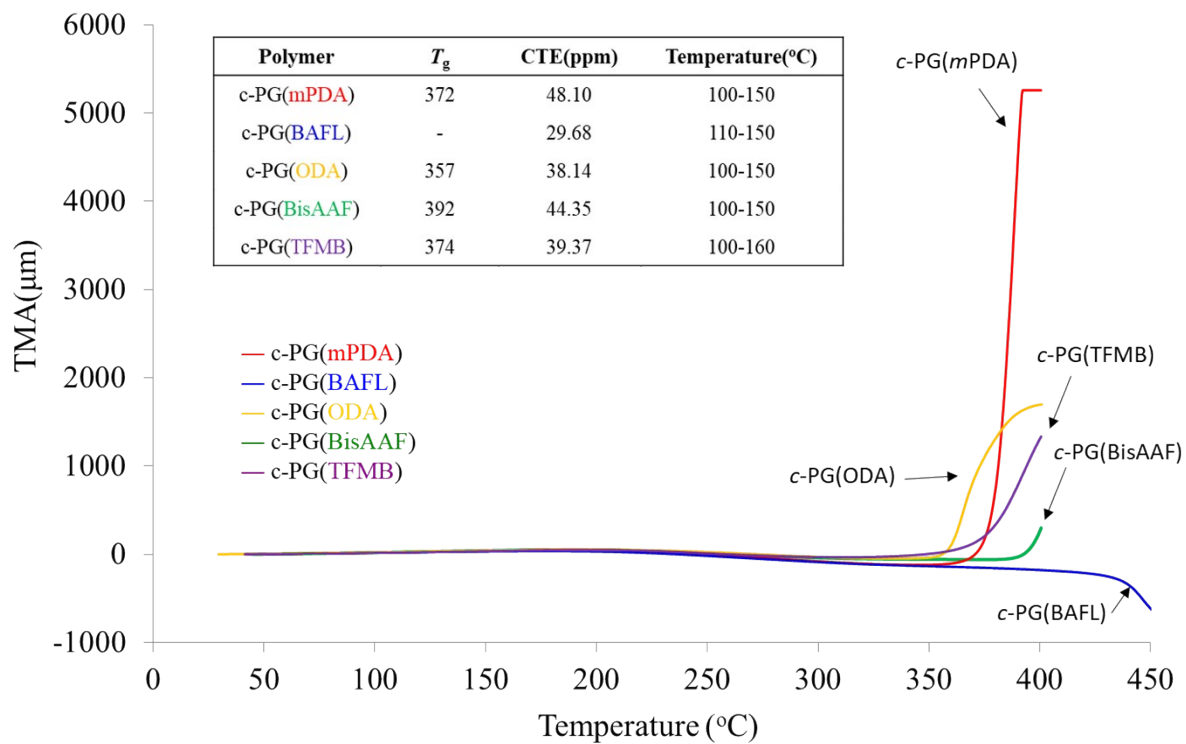


Figure 5S. TMA profiles of *c*-PG polymer films



Table 1s. Solubility of polymers

Polymer	DMF	DMAc	NMP	DMSO	THF	CHCl <sub>3</sub>	GBL	PGMEA	CHN
c-PG( <i>p</i> PDA)	±	++	++	±	-	-	-	-	-
c-PG( <i>m</i> PDA)	++	++	++	++	-	-	-	-	-
c-PG(BAFL)	++	++	++	++	-	-	-	-	-
c-PG(ODA)	++	++	++	++	-	-	-	-	-
c-PG(TFMB)	++	++	++	++	±	-	-	-	-
c-PG(BisAAF)	++	++	++	++	-	-	-	-	-

Polymer 10 mg / solvent 5 mL was used. ++ : soluble, ± : partially insoluble, - : insoluble.