

Supplementary Information: Digital and Experimental Design of CO₂-Responsive Polymers based on Acrylamide Monomers for Carbon Capture

Emil Pashayev,¹ Prokopios Georgopoulos^{1,*}

¹ Helmholtz-Zentrum Hereon, Institute of Membrane Research, Max-Planck-Str. 1, 21502, Geesthacht, Germany

Polymer Synthesis and Characterization

Table S 1. Recipe of PDMAPAm₂₃₂ synthesis.

CDTPA:AIBN:DMAPAm (eq.)	CDTPA (g)	AIBN (g)	DMAPAm (g)	1,4 Dioxane (g)	Total (g)
0,7:1:200	0,018	0,010	2,074	9,017	11,119

Table S 2. Recipe of PDMAPAm₂₃₂-b-PMMA₅₇ synthesis.

mCTA:AIBN:MMA	MMA (g)	mCTA (g)	Initiator (g)	1,4 Dioxane (g)	Total (g)
2:1:165	0,480	1,001	0,005	5,711	7,197

Table S 3. Apparent number and weight average molecular weight, dispersity of the synthesized PDMAPAm₂₃₂ and PDMAPAm₂₃₂-b-PMMA₅₇.

Polymer	$\bar{M}_{n,app}$ (kDa)	$\bar{M}_{w,app}$ (kDa)	Đ
PDMAPAm ₂₃₂	24	36	1,5
PDMAPAm ₂₃₂ -b-PMMA ₅₇	28	42	1,5

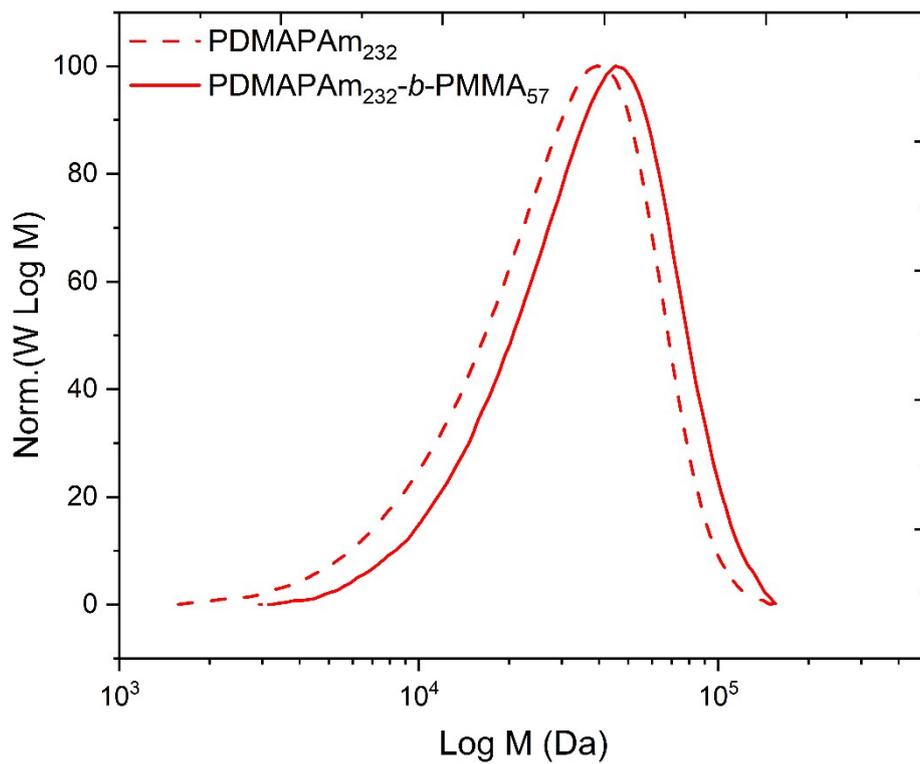


Figure S 1. Molar weight distribution curve of PDMAPAm₂₃₂ and PDMAPAm₂₃₂-*b*-PMMA₅₇ synthesized via RAFT polymerization.

Table S 4. Apparent number and weight average molecular weight, dispersity of the PMMA₇₀

Polymer	$\bar{M}_{n,app} (kDa)$	$\bar{M}_{w,app} (kDa)$	\bar{D}
PMMA ₇₀	7	10	1,4