Novel glycidyl azide polymers containing aromatic diol units: Synthesis and characterization for energetic composite propellant binders

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SUPLLEMENTARY INFORMATION

1. Charaterization of synthesized polymers PECH

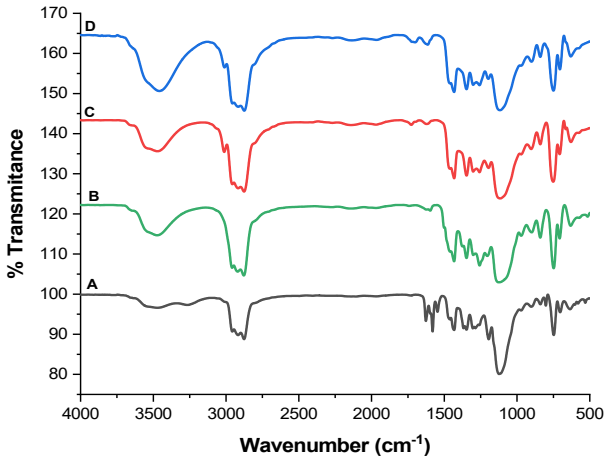


Figure S1. IR spectra of PECH-NR (A), PECH-CA (B), PECH-2BM (C), PECH-3BM (D)

Table S1. Yields, molecular weights and PDI of polymers PECH

Entry	Sample	Yield (%)	M_n (g/mol)*	M_w (g/mol)*	PDI*
1	PECH-NR	94	1714	2426	1.42
2	PECH-CA	92	1005	1566	1.56
3	PECH-2BM	90	1240	1989	1.60
4	PECH-3BM	85	1800	2522	1.40

*determined by GPC

2. Characterization of of synthesized polymers GAP

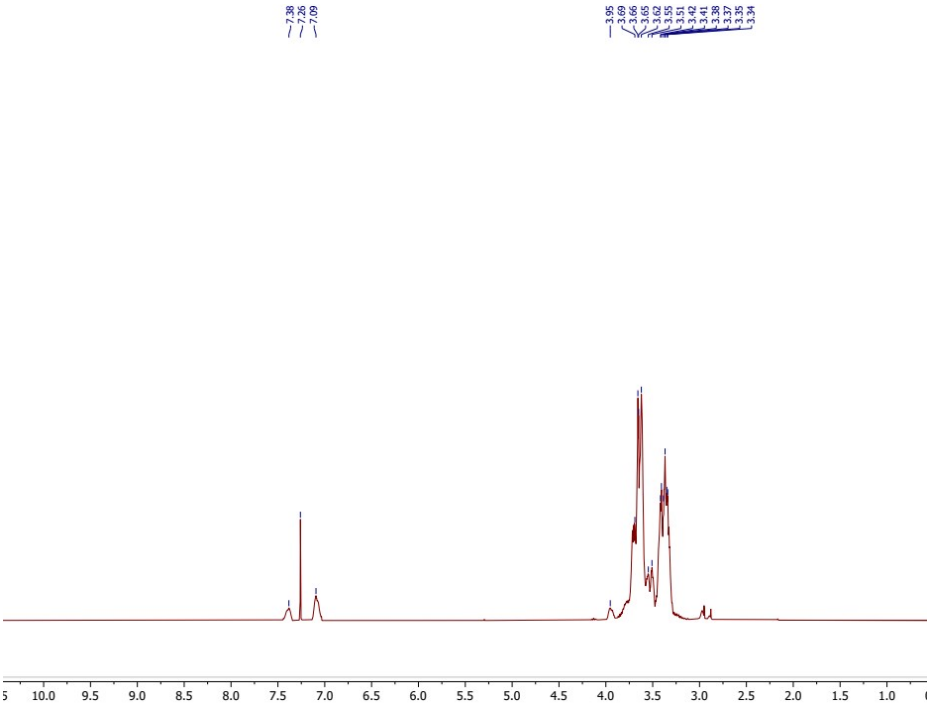


Figure S2. ^{1}H NMR spectra of polymer GAP-NR

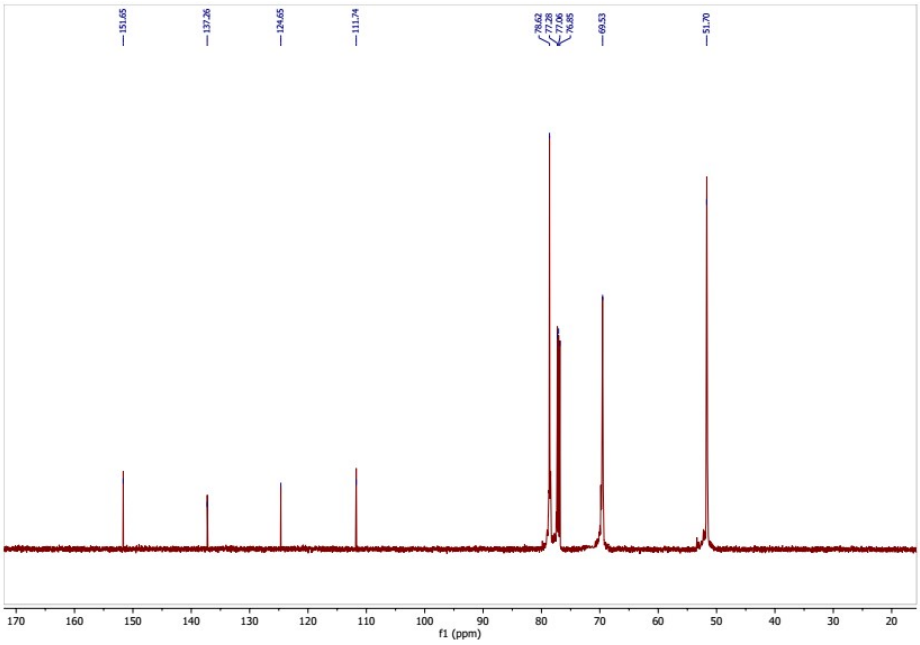


Figure S3. ^{13}C NMR spectra of polymer GAP-NR

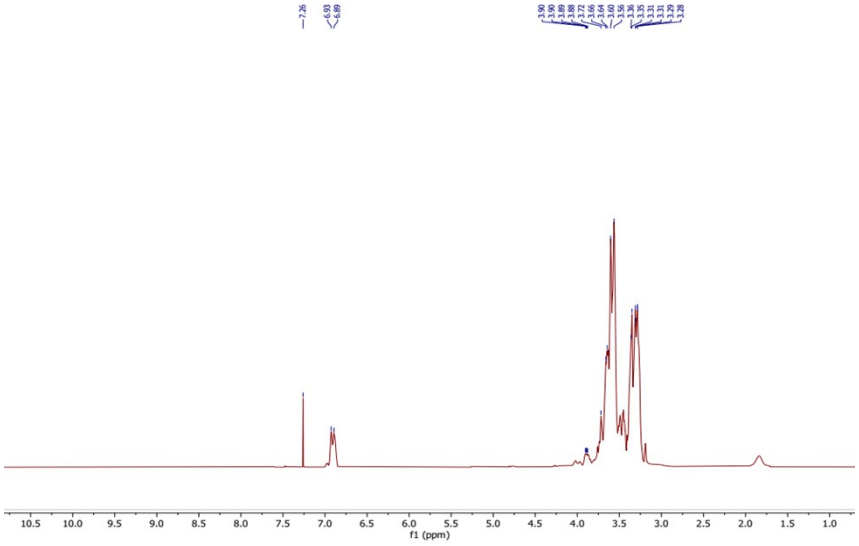


Figure S4. ^{1}H NMR spectra of polymer GAP-CA

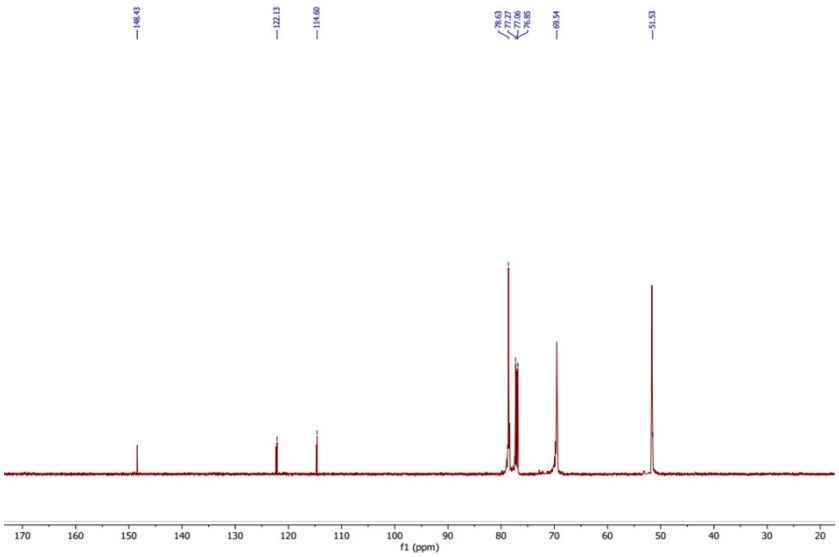


Figure S5. ^{13}C NMR spectra of polymer GAP-CA

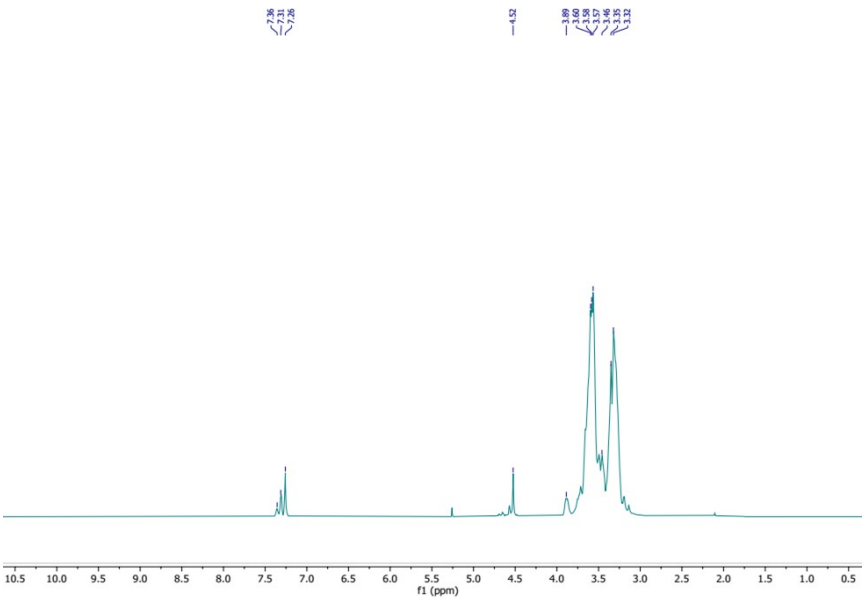


Figure S6. ^{1}H NMR spectra of polymer GAP-2BM

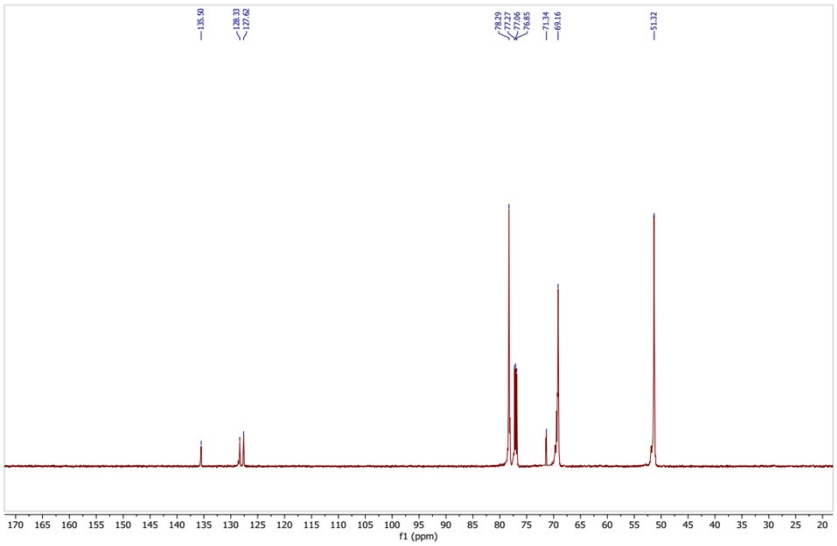


Figure S7. ^{13}C NMR spectra of polymer GAP-2BM

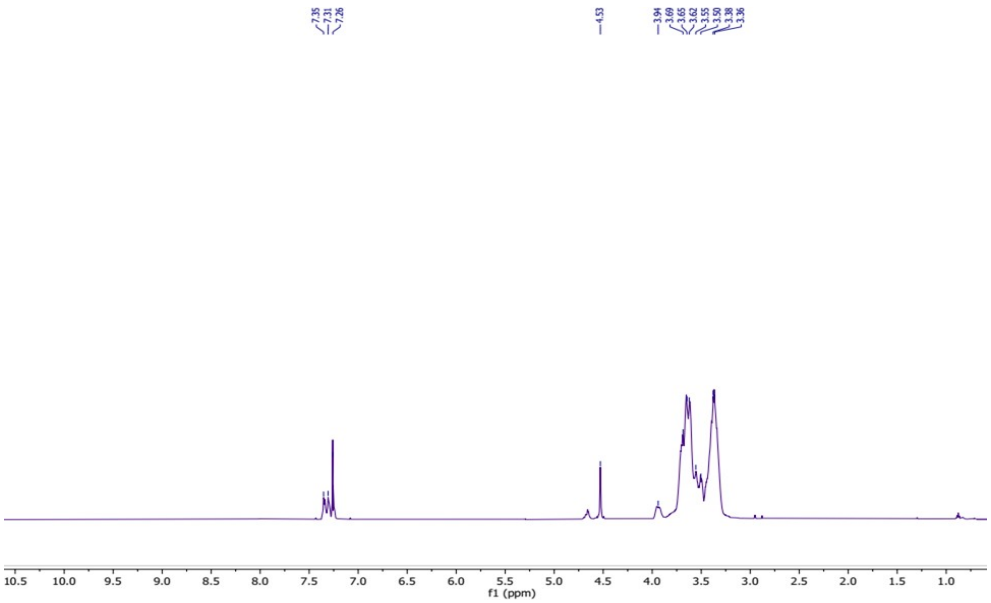


Figure S8. ^{1}H NMR spectra of polymer GAP-3BM

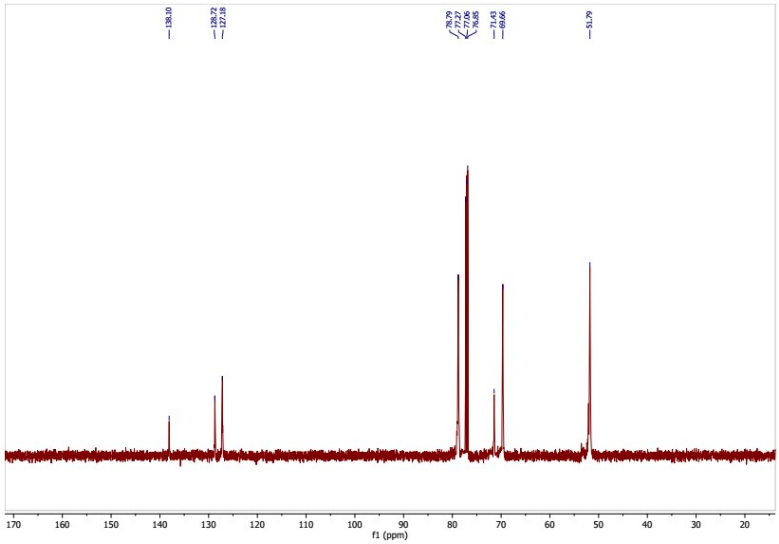


Figure S9. ^{13}C NMR spectra of polymer GAP-3BM

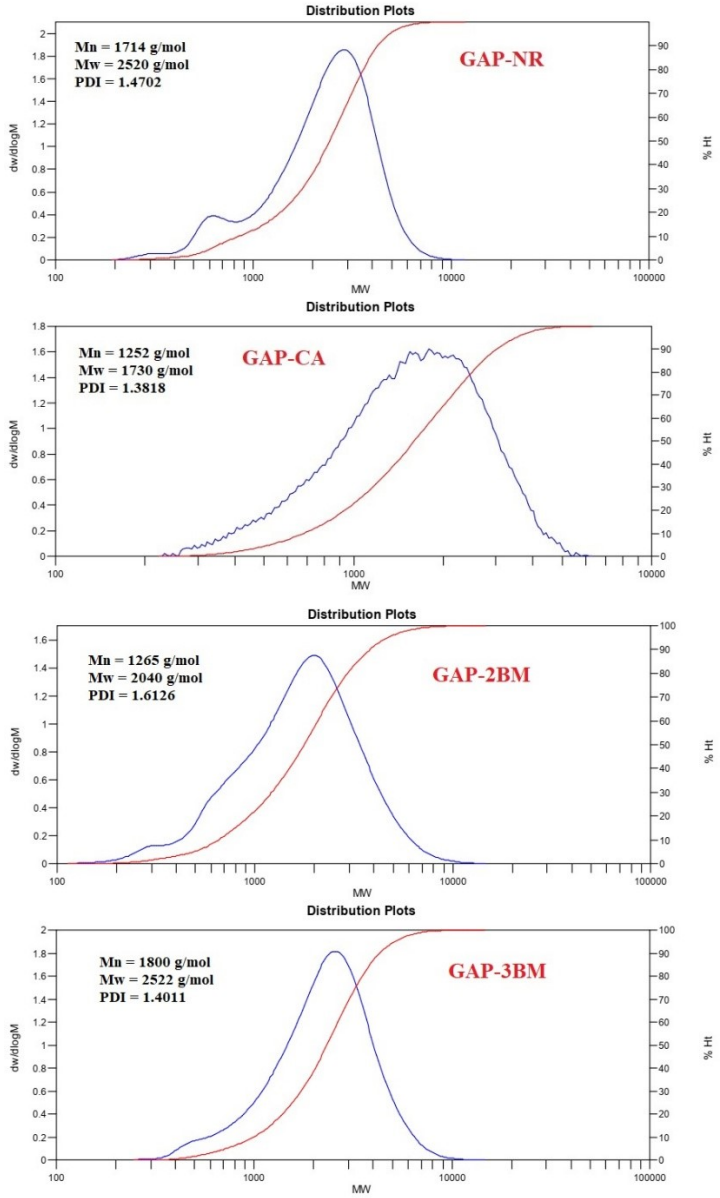


Figure S10. GPC curves of GAPs in chloroform eluent and using polystyrene standard

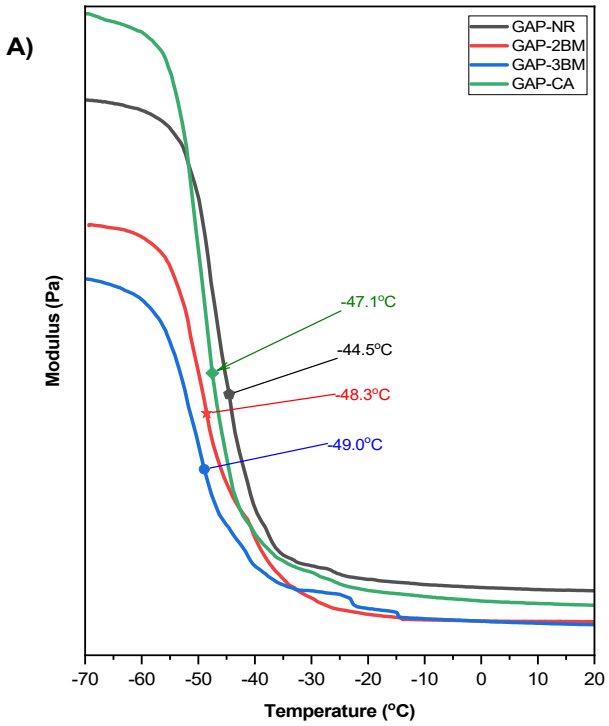
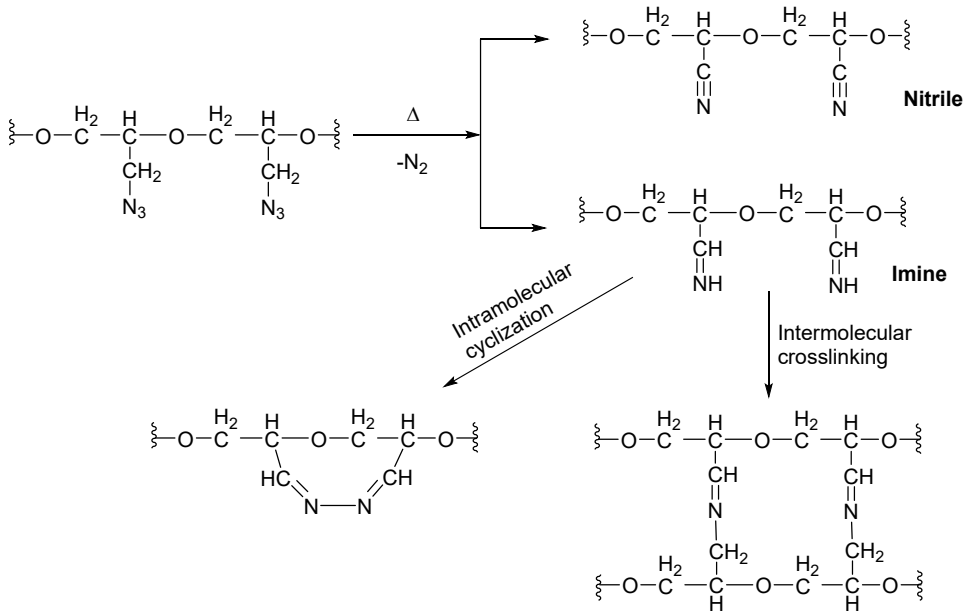


Fig. S11 DMA curves of polymers GAP containing aromatic diol units



Scheme S1. Proposed decomposition mechanism in TGA of synthesized glycidyl azide polymers