

Vitrimers based bio-silica fused poly(Eugenol-co-SH) composite materials for recycling, reshaping and self-healing applications.

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Supporting Information



Figure S1 Photographs of the prepared composites.

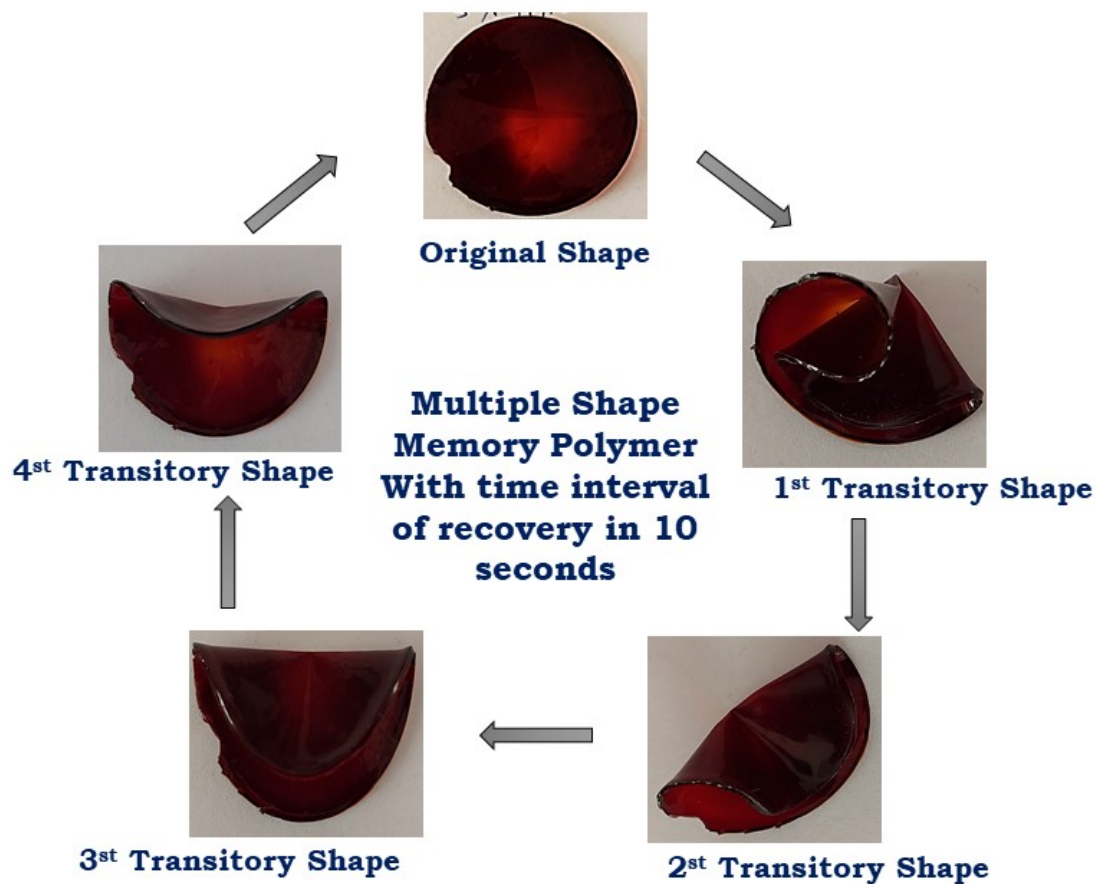


Figure S2: Photographs of poly[E-3ap-co-SH(10%)] composite indicating shape memory properties.

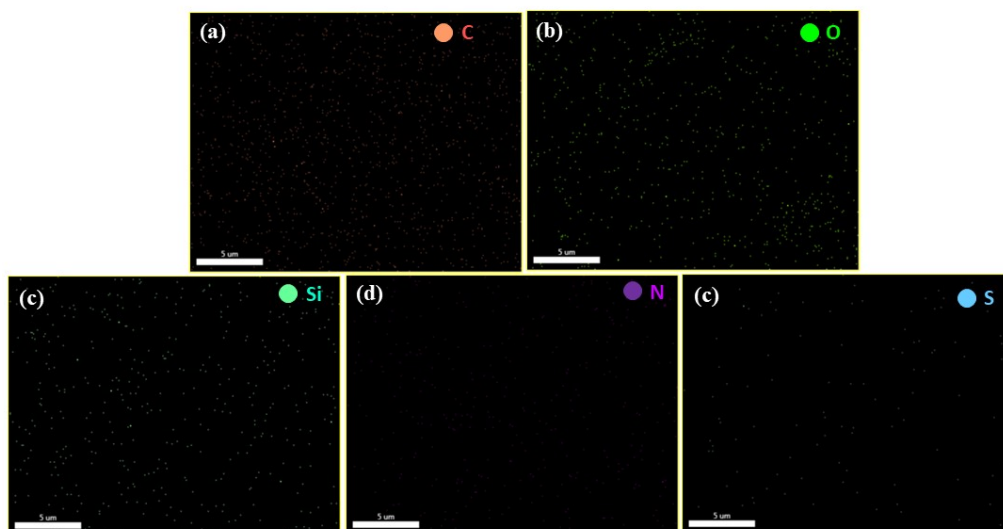


Figure S3: Elemental Mapping of (a) carbon, (b) oxygen, (c) sulphur, (d) nitrogen and (e) silica for Poly[E-3ap-co-SH(10%)/BS₅]

Table S1: Elemental compositions (Wt.%) of the polymer composites determined by EDX technique.

Sample	Elemental Composition (wt. %)				
	C	O	Si	N	S
Poly[E-3ap-co-SH(10%)/BS ₁]	57.66	34.20	5.59	1.92	0.63
Poly[E-3ap-co-SH(10%)/BS ₃]	53.78	34.42	8.74	2.27	0.79
Poly[E-3ap-co-SH(10%)/BS ₅]	52.52	33.96	10.03	2.51	0.98

Optical microscopy

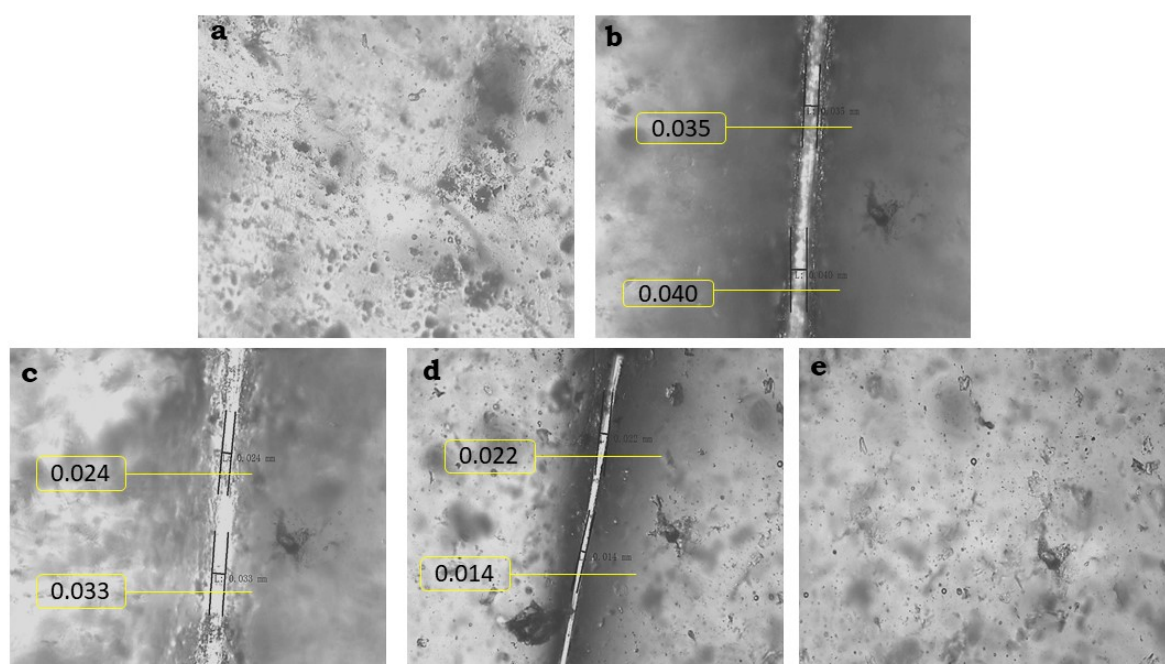


Figure S4: optical microscopy images of poly[E-3ap-co-SH(15%)] (a) neat, (b) damaged, (c) after 2h, (d) after 4h and (e) after 6h.

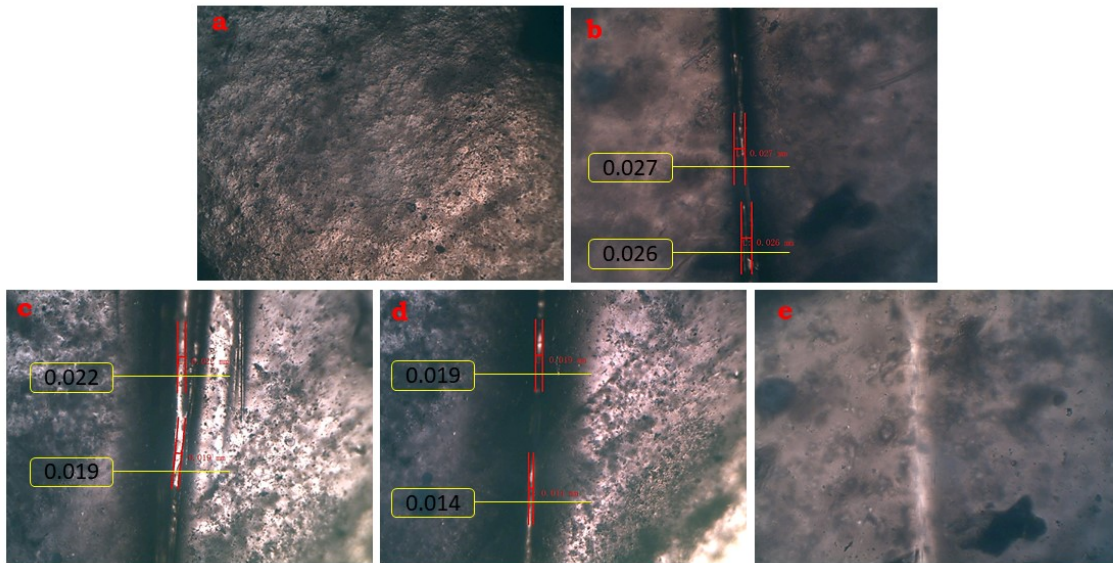


Figure S5: optical microscopy images of poly[E-3ap-co-SH(15%)] (a) neat, (b) damaged, (c) after 2h, (d) after 4h and (e) after 24h.

Mechanical/tensile test

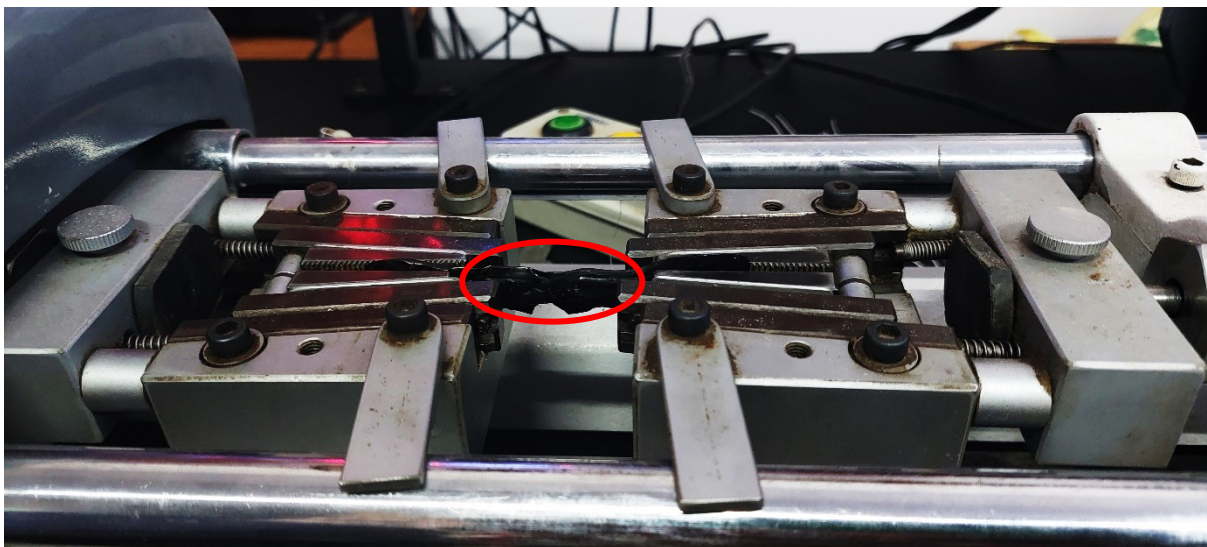


Figure S6: Tensile/flexural sampling.