

Electronic Supporting Information (ESI)

Facile Fabrication of Eugenol-containing Polysiloxane Films with Good Optical Properties and Superb Thermal Stability via Si–H Chemistry

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Abstract

This supplementary file would help the researchers to understand this research work better. There are various datum that can be seen as following.

1. The specific output image of the density functional theory (DFT) calculation of Eugenol
2. The resultant eugenol-containing polysiloxane prepared via Hydrosilylation-PR process, accompanied by foam structure and yellow discoloration.

3. FTIR-ATR spectra of the eugenol-containing polysiloxane films and the starting Eugenol.
4. The extinction coefficient of the eugenol-containing polysiloxane films.
5. The Gel permeation chromatography (GPC) result of the Sequence 1 polymer prepared using 1.6 PMHS and eugenol at the optimal condition. The GPC measurement was carried out on a Waters 1525/2414 chromatograph (WATERS Co., Milford, MA, USA) in a linear column eluted with tetrahydrofuran at a flow rate of 1.0 mL min⁻¹.
6. The results of water contact angle measurement.

Data

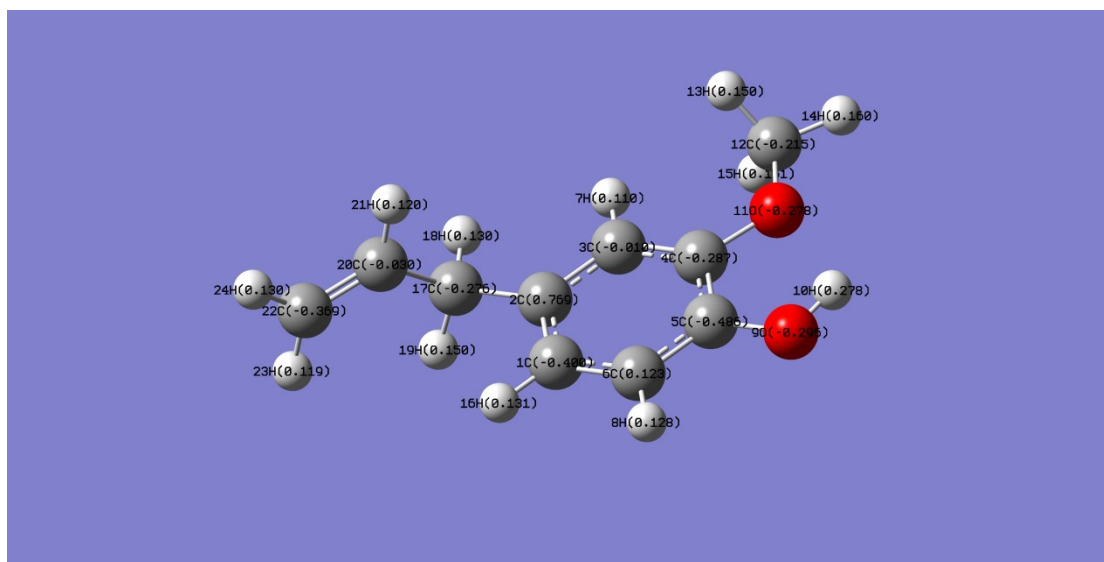


Figure S1. The optimized result of Eugenol



Figure S2. The eugenol-containing polysiloxane prepared by Hydrosilylation-PR process.

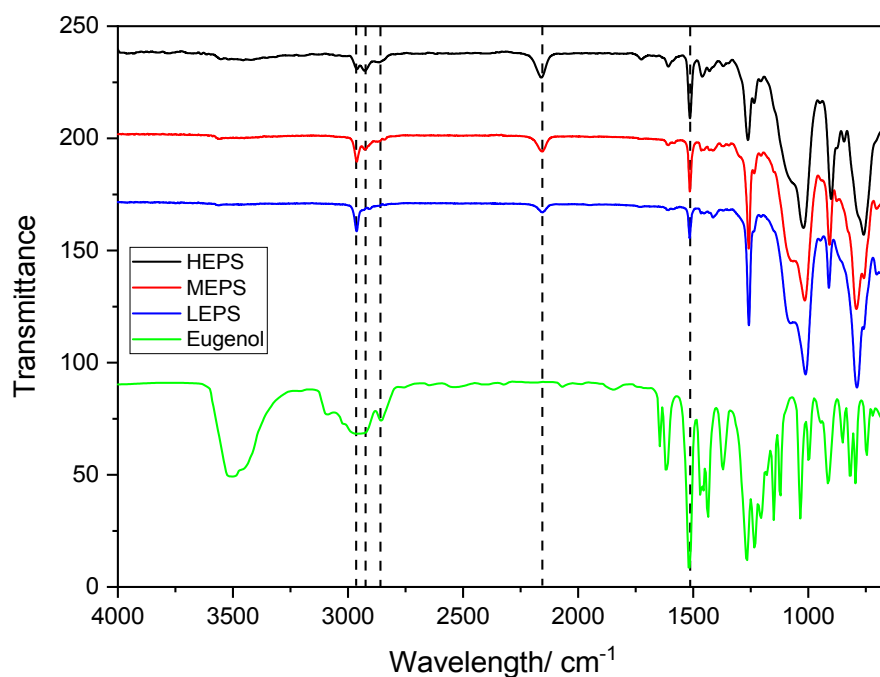


Figure S3. FTIR-ATR spectra of the eugenol-containing polysiloxane films and the starting Eugenol. The FTIR spectrum of Eugenol was obtained from the NIST Standard Reference Data.

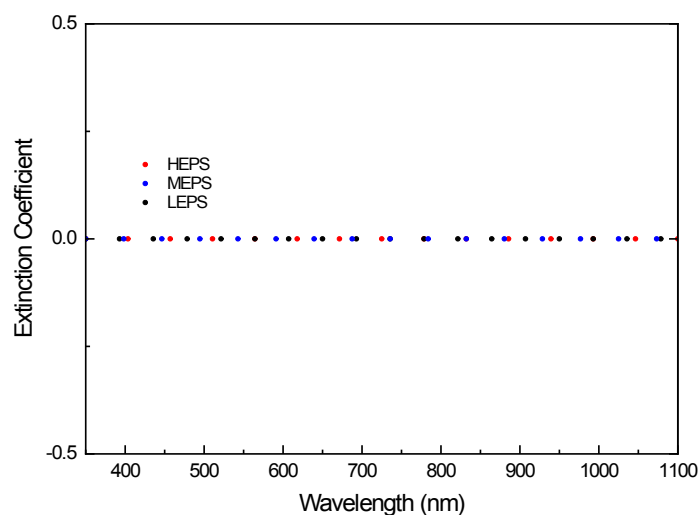


Figure S4. The extinction coefficient of the eugenol-containing polysiloxane films.

Table S1. The GPC result of the Sequence 1 polymer prepared using 1.6PMHS and eugenol at the optimal condition of 25 °C, 0.1 mmol L⁻¹ B(C₆F₅)₃ concentration and 35 wt% reactants concentration.

	Distribution Name	Mn (Daltons)	Mw (Daltons)	MP (Daltons)	Mz (Daltons)	Mz+1 (Daltons)	Polydispersity	Mz/Mw	Mz+1/Mw
1		2975	13605	10279	38040	63158	4.572888	2.796074	4.642416

Table S2. The result of water contact angle measurement

Sample	1 st Test		2 nd Test		3 rd Test		Average
	Left	Right	Left	Right	Left	Right	
HEPS	107.78°	108.58°	107.57°	108.46°	108.08°	109.09°	108.26°
MEPS	106.75°	106.22°	106.96°	106.33°	106.67°	106.1°	106.51°
LEPS	93.82°	94.11°	94.75°	94.88°	94.80°	94.97°	94.56°