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Supplementary Materials

Flexible Polyurethane Foams from Epoxidized Vegetable Oils and a Bio-based Diisocyanate

Angelica Cifarelli, Laura Boggioni, Adriano Vignali, Incoronata Tritto, Fabio Bertini and Simona Losio*

Institute for Chemical Sciences and Technologies "G. Natta" National Research Council, Via A. Corti 12, 20133 Milan, Italy; angelica.cifarelli@scitec.cnr.it (A.C); laura.boggioni@scitec.cnr.it (L.B.) adriano.vignali@scitec.cnr.it (A.V.); incoronata.tritto@scitec.cnr.it (I.T.); fabio.bertini@scitec.cnr.it (F.B.)

* Correspondence: simona.losio@scitec.cnr.it (S.L.); Tel.: +39-02-23699-369

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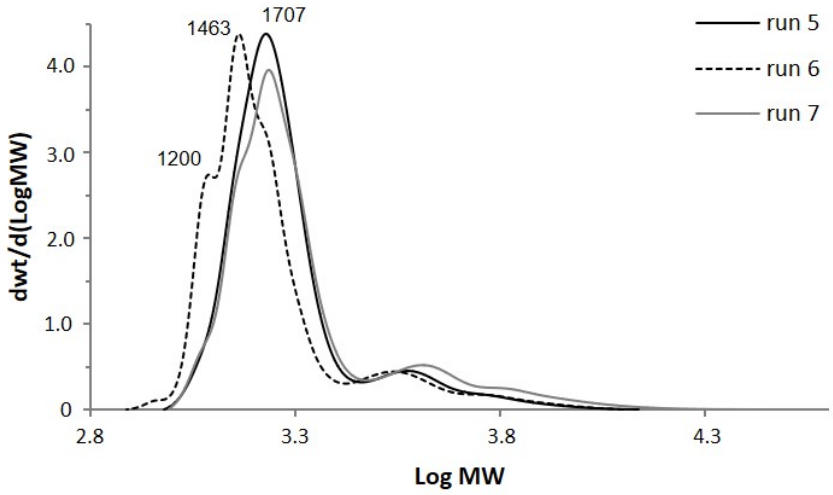

Figure S1. Effect of the reaction conditions on the molecular weight of bio-polyols from ESO and caprylic acid.

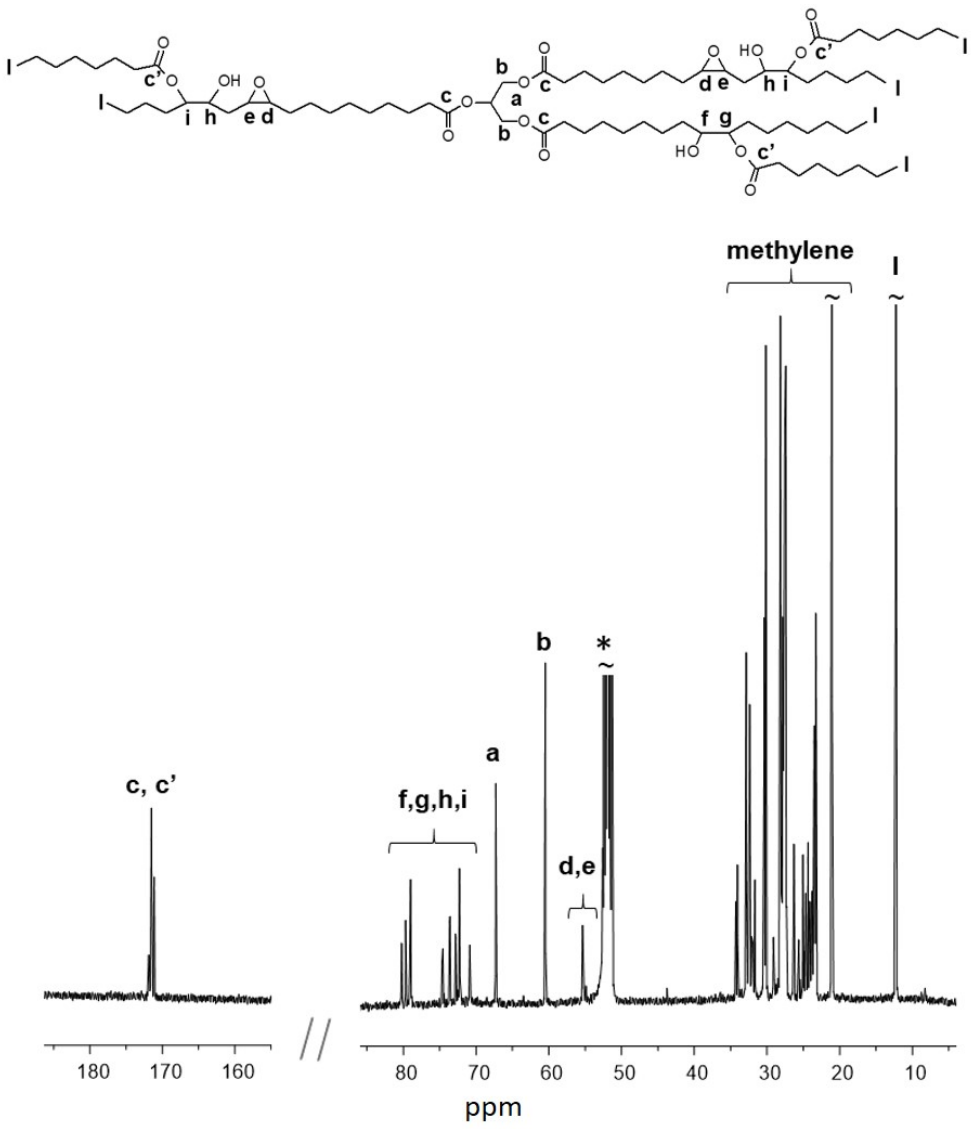

Figure S2. ^{13}C-NMR spectrum of bio-polyol from ESO and caprylic acid (Run 5 in Table 1).

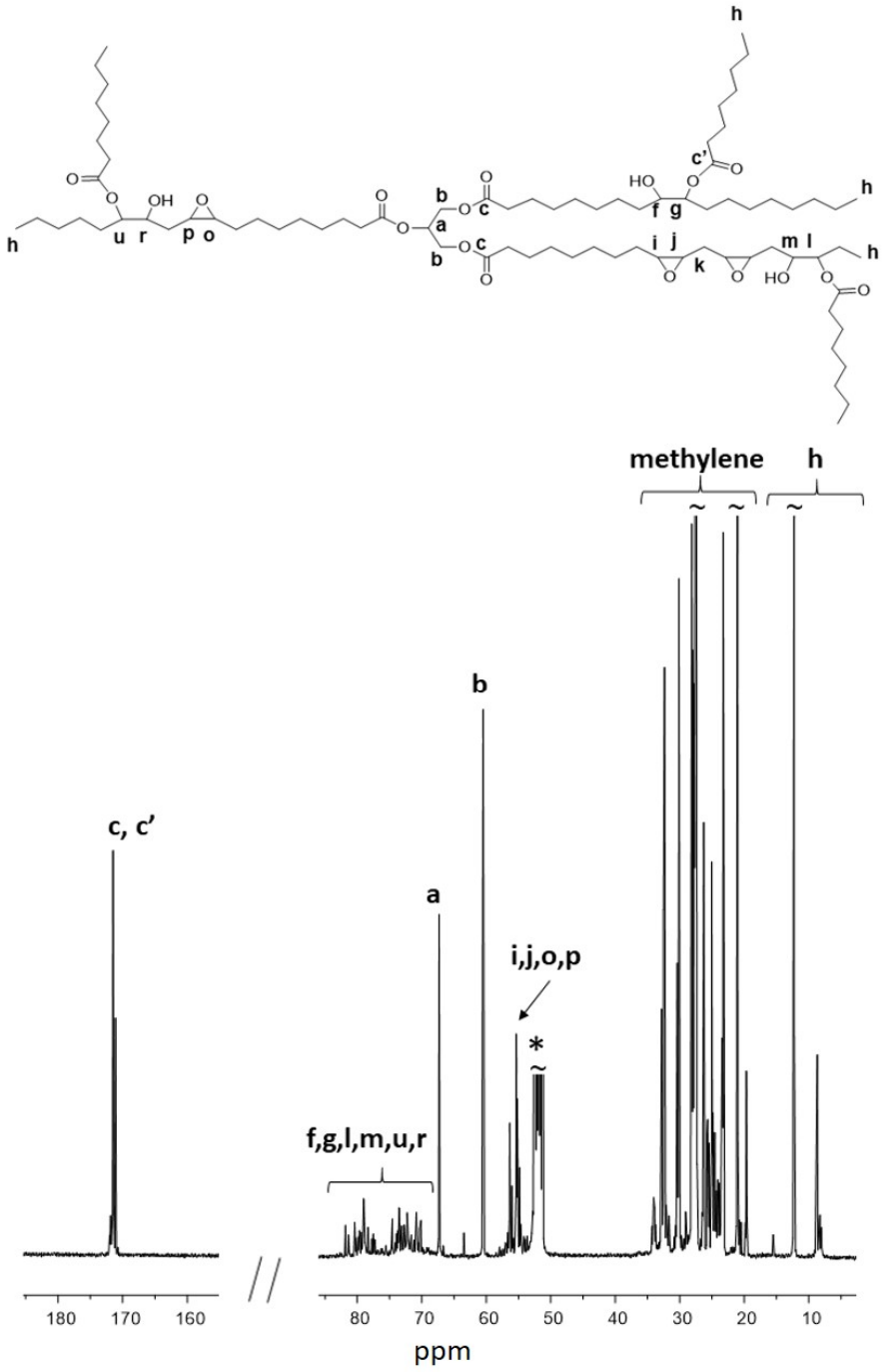

Figure S3. ^{13}C-NMR spectrum of bio-polyol from ELO and caprylic acid (Run 8 in Table 1).

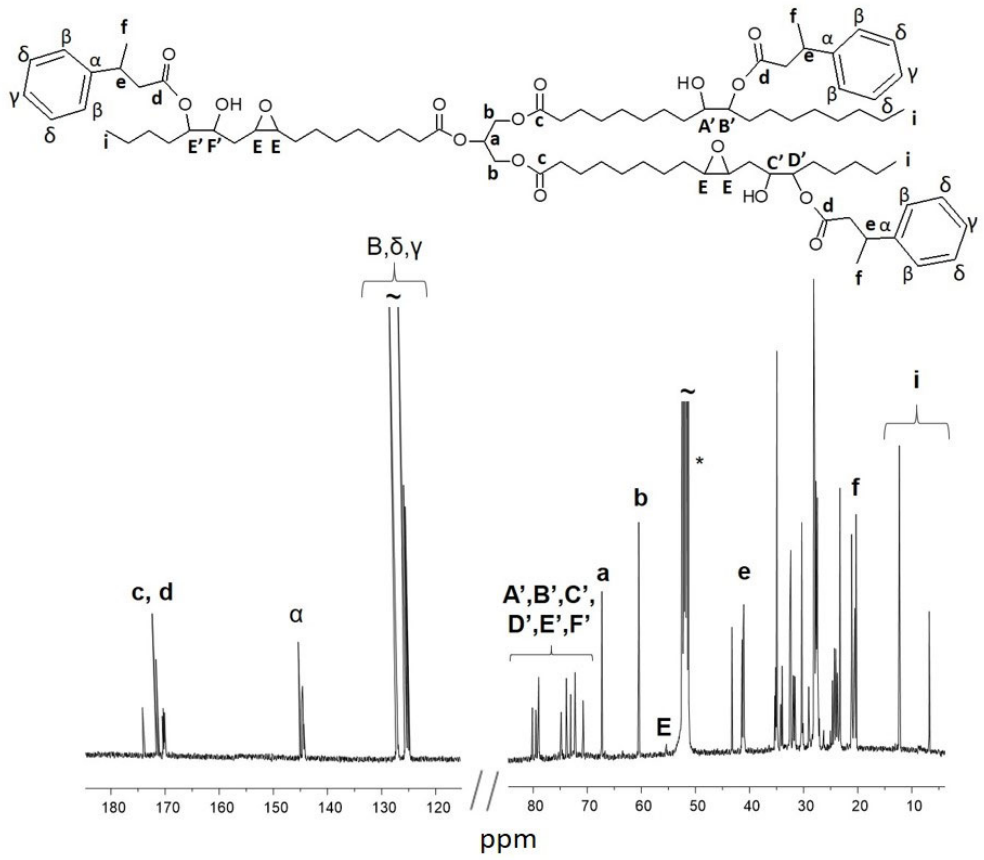

Figure S4. ^{13}C-NMR spectrum of bio-polyol from ESO and 3-phenyl butyric acid (Run 10 in Table 1).

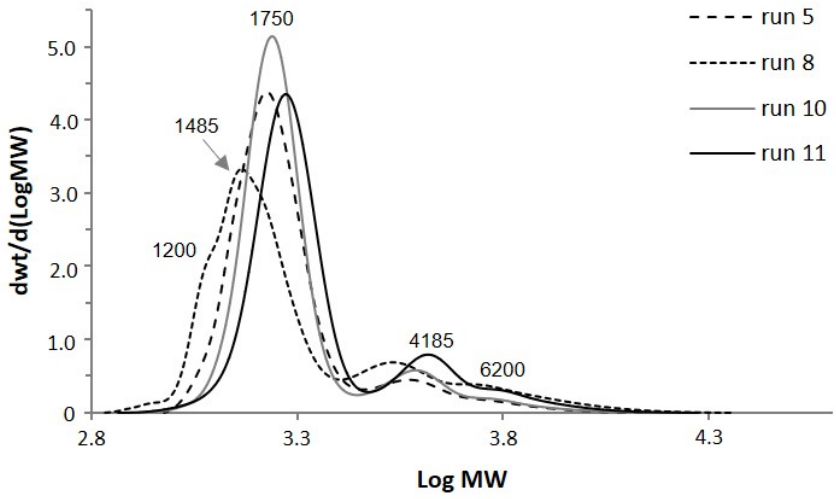

Figure S5. SEC chromatograms of selected bio-polyols.

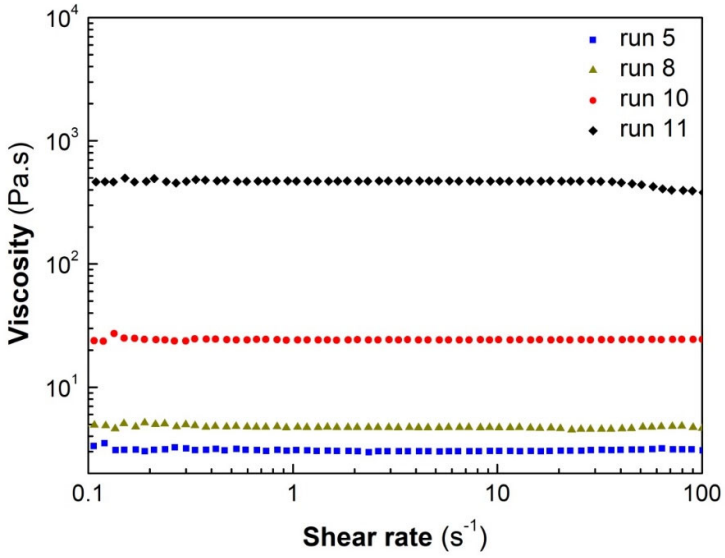

Figure S6. Viscosity of the selected bio-polyols.

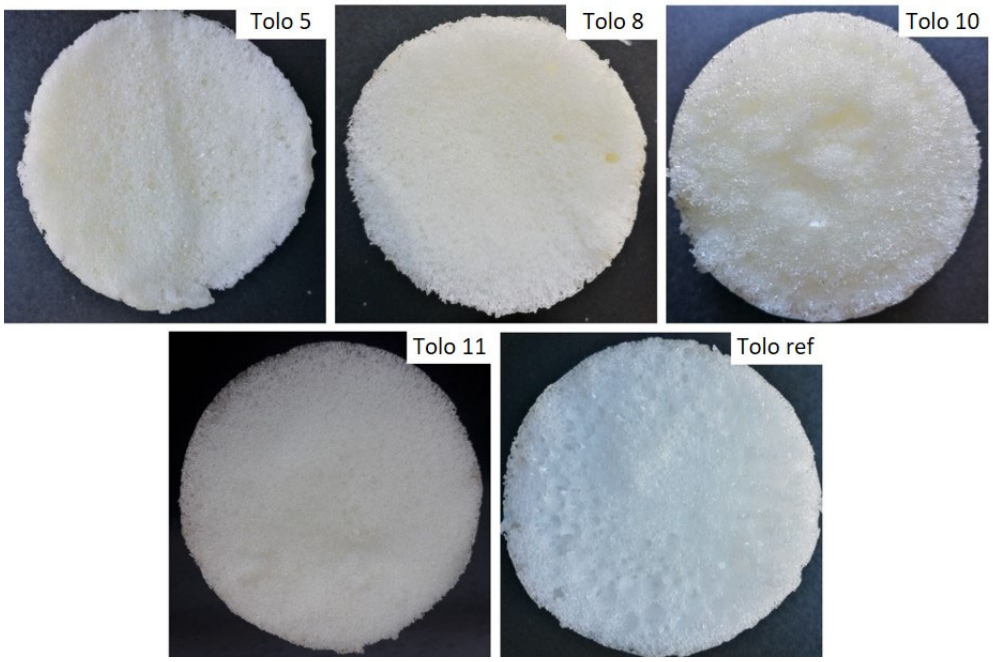

Figure S7. Representative photos of prepared foam sections.

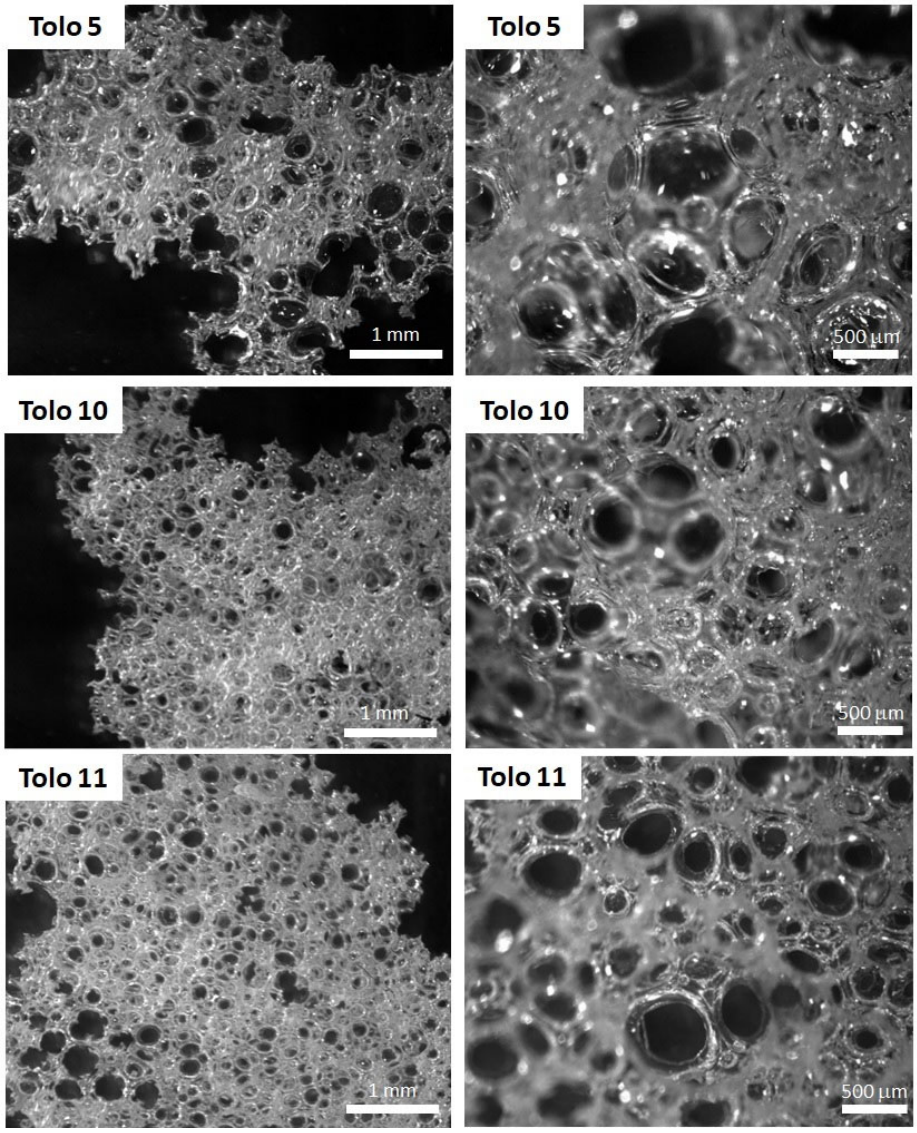

Figure S8. Optical microscope images of Tolo 5, and Tolo 10 and Tolo 11 at different magnifications (10× and 30×).

Table S1. Assignments of the main FTIR bands for flexible polyurethane foams.

Assignment	Group Assignment	Wavenumber (cm^{-1})				
		Tolo 5	Tolo 8	Tolo 10	Tolo 11	Tolo ref
ν_{st} C-O-C	Ether bond (PPG chain)	1107	1106	1107	1106	1106
ν_{st} N-H	Urea	1502	1502	1503	1502	1501
ν_{st} C-H & δ-N-H	Urea	1534	1532	1533	1533	1534
δ-C-N	Urethane	~1561	~1562	~1562	~1563	~1562
ν_{st} C=O	Urea bidentate	~1639	~1639	~1639	~1641	~1639
ν_{st} C=O	Urea monodentate	~1679	~1678	~1676	~1679	~1679
ν_{st} C=O	Urethane-H bonded & Free Urea	1714	1715	1714	1714	1714
ν_{st} C=O	Polyol residues (ester group)	1738	1736	1737	1738	-