1. ABOUT THE DATASET

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Title: Dataset associated with "Toward monodomain nematic liquid crystal elastomers of arbitrary thickness through PET-RAFT polymerization"

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Organisation(s): University of Leeds

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Publication Year: 2024

Description: This dataset contains the data associated with the article "Toward monodomain nematic liquid crystal elastomers of arbitrary thickness through PET-RAFT polymerization", published in Macromolecules**.** We report a range of data including Fourier-Transform Infrared spectra, differential scanning calorimetry thermograms, and thermogravimetric analysis thermograms. The data set includes the figures published in the aforementioned article.

Cite as: Berrow, Stuart; Mandle, Richard; Raistrick, Thomas; Reynolds, Matthew; Gleeson, Helen (2024): Dataset associated with " Toward monodomain nematic liquid crystal elastomers of arbitrary thickness through PET-RAFT polymerization". University of Leeds. [Dataset] https://doi.org/10.5518/1393.

Related publication: S. R Berrow, R. J. Mandle, T. Raistrick, M. Reynolds, H. F. Gleeson, Towards Monodomain Nematic Liquid Crystal Elastomers of Arbitrary Thickness Through PET-RAFT Polymerization, Macromolecules, 2024, Accepted

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2. TERMS OF USE

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3. PROJECT AND FUNDING INFORMATION

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Title: Stretching the boundaries; new soft matter systems

Dates: 15th August 2022 – 14th August 2027

Funding organisation: Engineering and physical sciences research council

Grant no.: EP/V054724/1

4. CONTENTS

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File listing

* **Figure 4.zip** - A zip folder containing the data file used to produce Figure 4 in the research article, i.e., the differential scanning calorimetry showing the clearing temperature of the LCE mixtures.
* **Figure 6**.**zip** - A zip folder containing the data file used to produce Figure 5 in the research article, i.e., FTIR spectra monitoring reaction conversion.
* **Figure 8**.**zip** – A zip folder containing the data file used to produce Figure 8 in the research article, i.e., Raman depolarisation data.
* **Figure 9**.**zip** - A zip folder containing the data file used to produce Figure 9 in the research article, i.e., Normalised FTIR spectra for the PET-RAFT LCEs.
* **Figure 10.zip** - A zip folder containing the data file used to produce Figure 10 in the research article, i.e., differential scanning calorimetry data for the cured LCEs.
* **Figure 11**.**zip** - A zip folder containing the data file used to produce Figure 11 in the research article, i.e., dynamic mechanical analysis data for the LCEs.
* **Figure 12**.**zip** - A zip folder containing the data file used to produce Figure 12 in the research article, i.e., thermogravimetric analysis data.
* **Figure 13**.**zip** - A zip folder containing the data file used to produce Figure 13 in the research article, i.e., mechanical analysis of the auxetic response of the LCEs.
* **Supplementary data**.zip – A zip folder containing a collection of data files for the figures shown in the supplementary data file for the article, including but not limited to: FTIR spectra, NMR spectra, and Raman depolarisation ratio data.

5. METHODS

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Details of all of the methods used to collect this data can be found in the associated publication, ‘Towards Monodomain Nematic Liquid Crystal Elastomers of Arbitrary Thickness Through PET-RAFT Polymerization, published in Macromolecules.