

1 **Catalyst influence on undesired side-reactions in the**
 2 **polycondensation of fully bio-based polyester**
 3 **itaconates**

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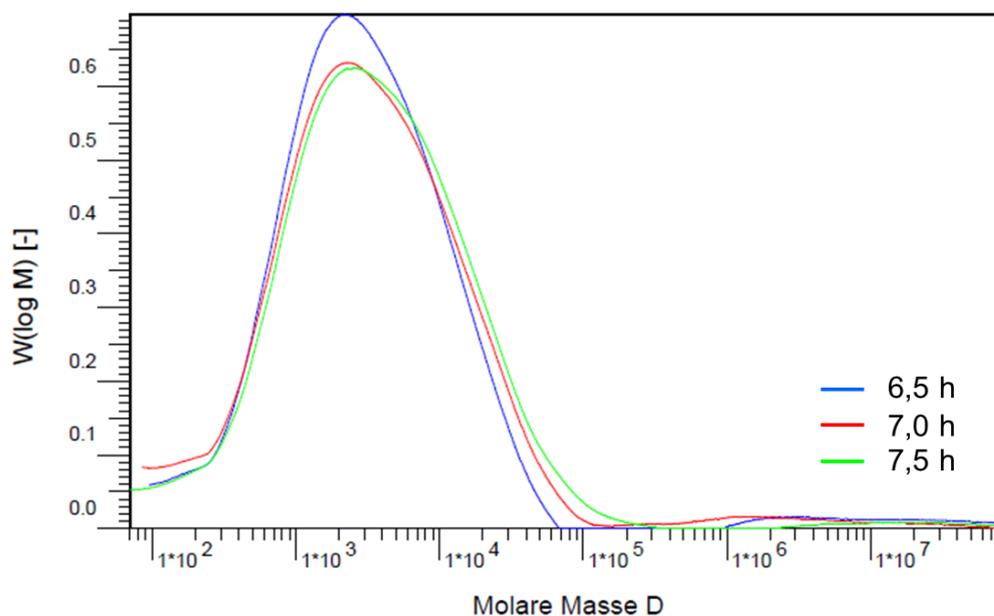
Supporting Information

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13 **Size Exclusion Chromatography (SEC) Measurements**

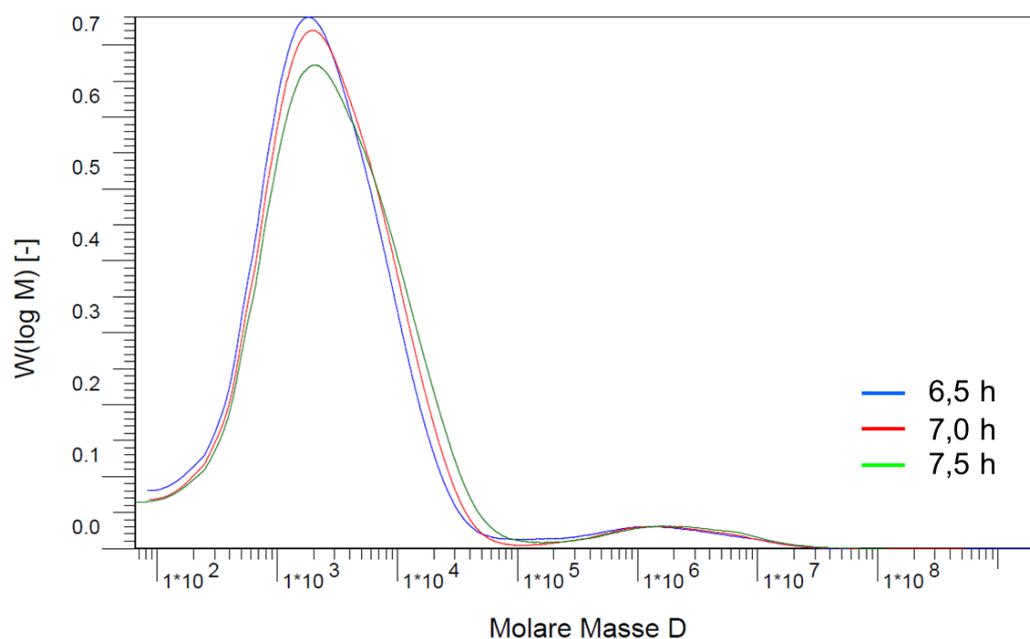
14 Determination of the molar mass distribution was performed by SEC measurements with tetrahydrofuran as eluent and with polystyrene-calibration in the range of 162 g/mol to 70,000 g/mol. Three columns SDV 1000A at 40°C, a variable UV-detector (here: 254 nm), a refractive index detector and the software (WinGPC Unity) were provided by Polymer Standard Service (Mainz, Germany). Samples of the polycondensation reaction of Itaconic acid with 1,3-propanediol in the presence of methanesulfonic acid (MSA) and zinc acetate ($Zn(OAc)_2$) were taken after 6.5, 7, and 7.5 hours. The molecular weight distribution for the polycondensation reaction with MSA is shown in figure S1, for $Zn(OAc)_2$ in figure S2. In addition, figure S3 shows the molecular weight distribution of both reaction at 7.5 h.

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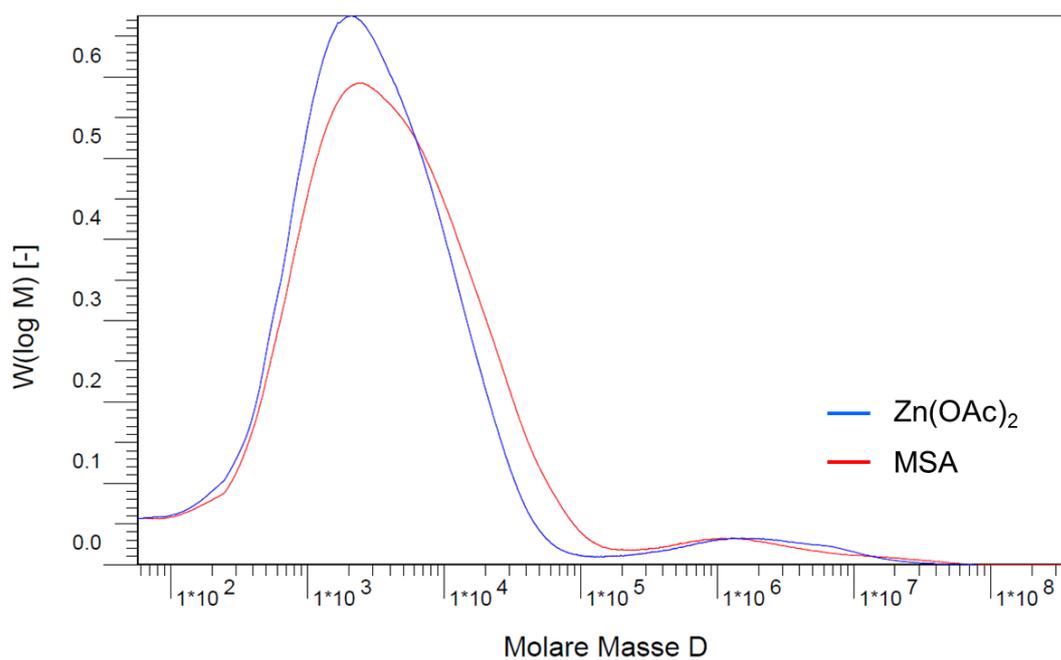
24 **Figure S1.** SEC traces of the polycondensation reaction of itaconic acid with 1,3-propanediol in the presence of
 25 MSA as catalyst.



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27 **Figure S2.** SEC traces of the polycondensation reaction of itaconic acid with 1,3-propanediol in the presence of
28 Zn(OAc)₂ as catalyst.

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31 **Figure S3.** Comparison of the SEC traces of the polycondensation reaction of itaconic acid with 1,3-propanediol
32 after 7.5 h in the presence of MSA and Zn(OAc)₂.

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