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Supporting Information

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Quantification of Ultrasound-Induced Chain Scission in Pd^{II}-Phosphine Coordination Polymers

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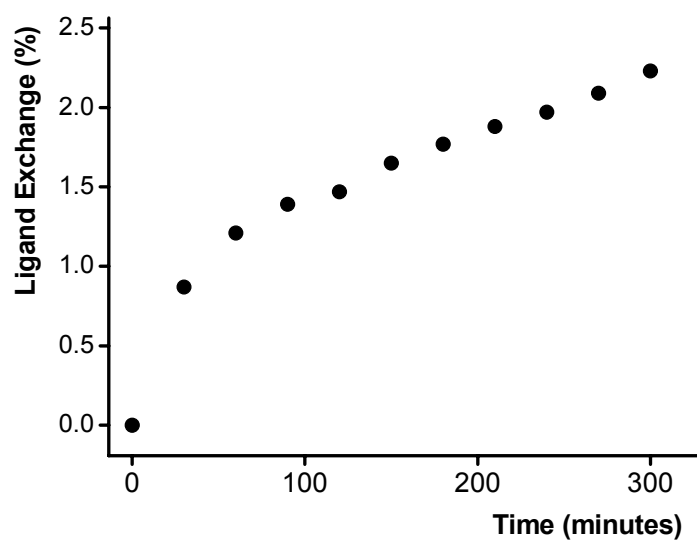


Figure S1. Ligand exchange of coordination polymer **3** without sonication in the presence of 1.7 equivalents of stopper complex **4** (quantified with SEC-RI).

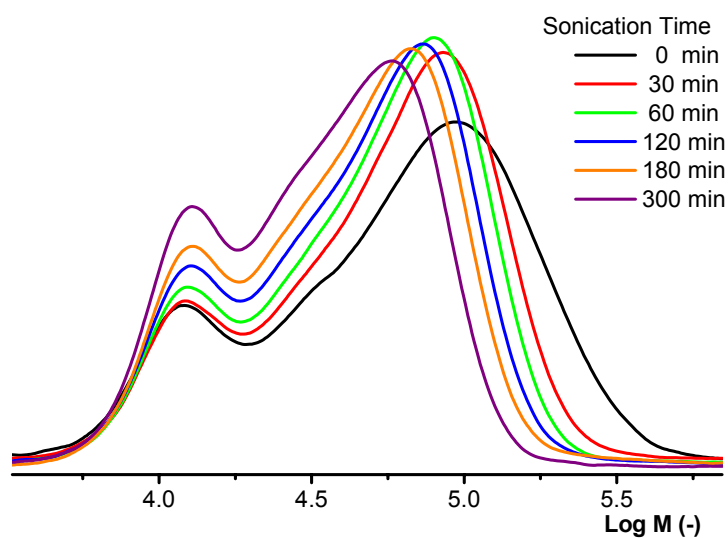


Figure S2. SEC-traces measured at regular intervals during sonication of coordination polymer **3** in toluene (10 g/L, 1.45 mM).

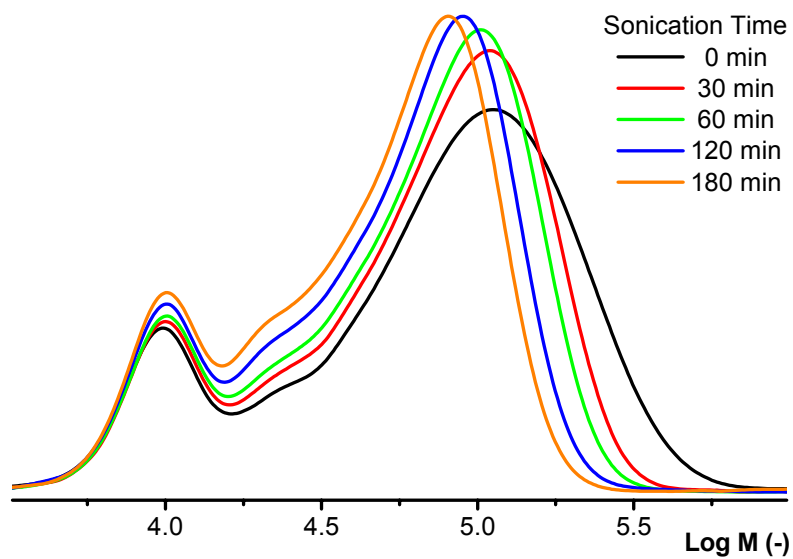


Figure S3. SEC-traces measured at regular intervals during sonication of coordination polymer **3** in toluene (10 g/L, 1.45 mM) in the presence of 1.7 equivalents of stopper **4**.

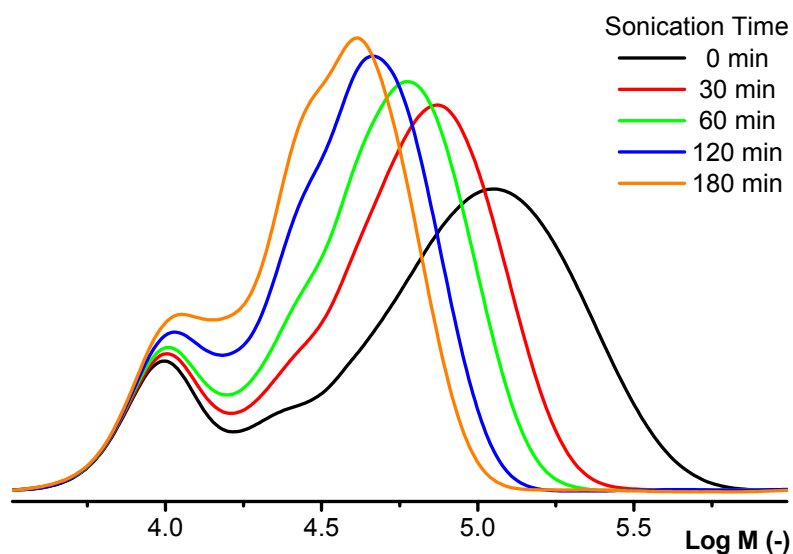


Figure S4. SEC-traces measured at regular intervals during sonication of coordination polymer **3** in toluene (10 g/L, 1.45 mM) in the presence of 10 equivalents of stopper **4**.

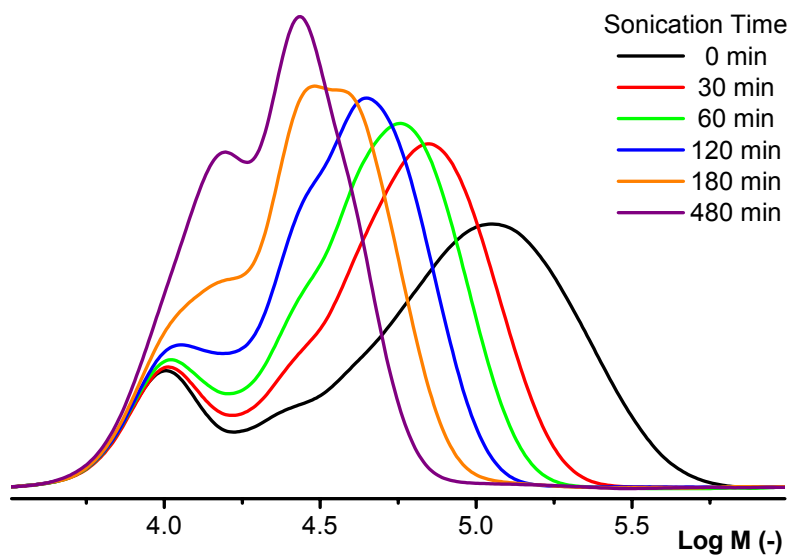


Figure S5. SEC-traces measured at regular intervals during sonication of coordination polymer **3** in toluene (10 g/L, 1.45 mM) in the presence of 60 equivalents of stopper **4**.

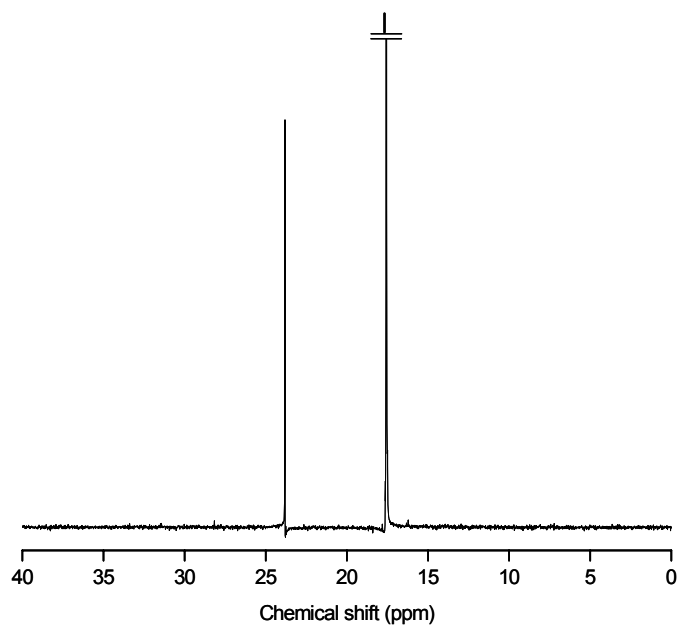


Figure S6. ^{31}P $\{^1\text{H}\}$ NMR spectrum of coordination polymer **3** in toluene (10 g/L, 1.45 mM) in the presence of 10 equivalents of stopper **4**, before sonication

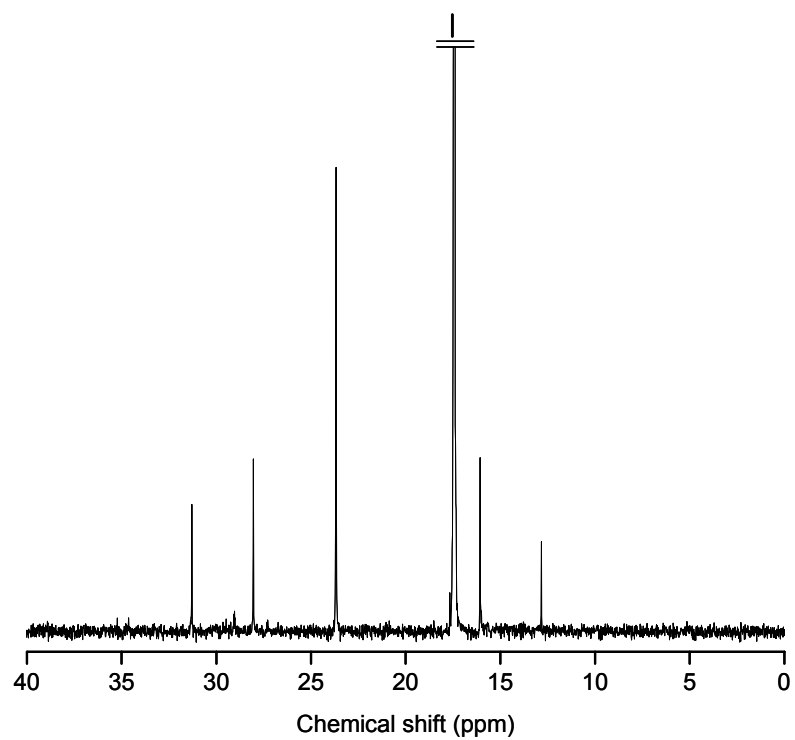


Figure S7. ^{31}P $\{^1\text{H}\}$ NMR spectrum of coordination polymer **3** in toluene (10 g/L, 1.45 mM) in the presence of 10 equivalents of stopper **4**, after 3 hours of sonication

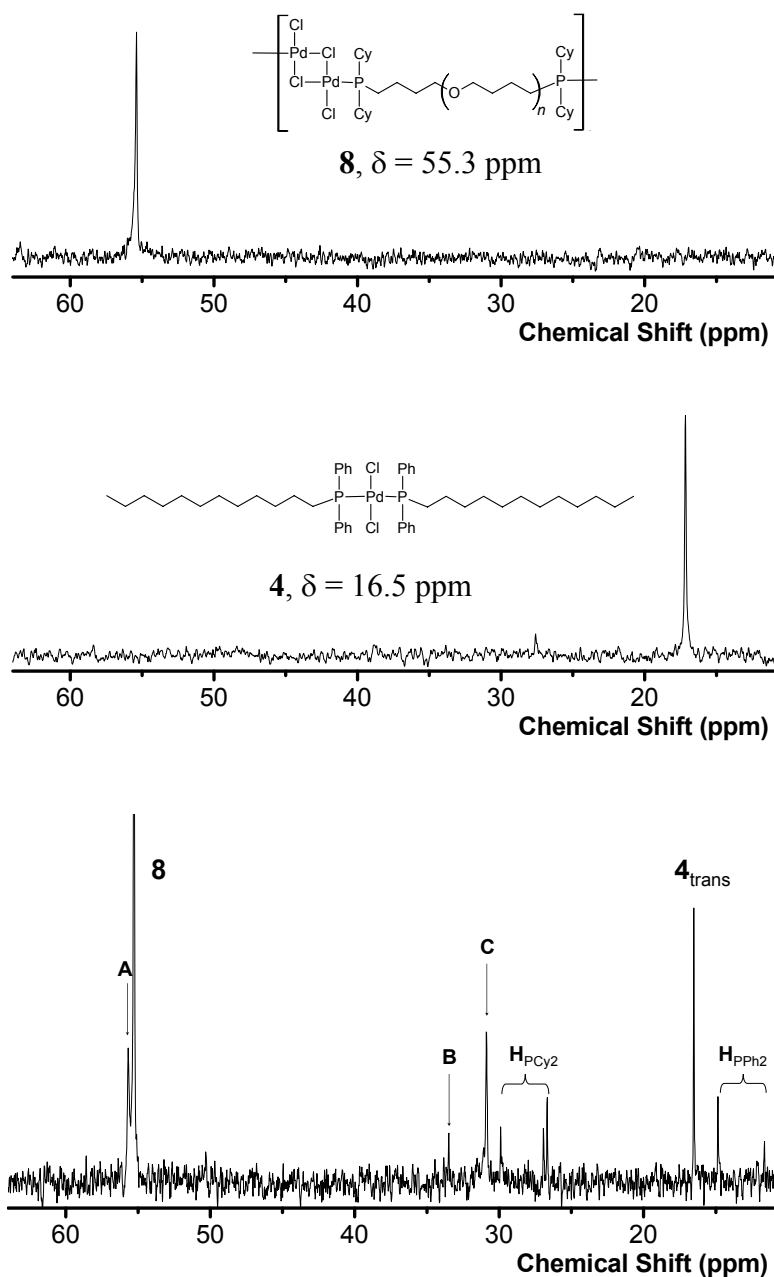


Figure S8. ^{31}P $\{^1\text{H}\}$ NMR spectra of coordination polymer **8** (top), stopper complex **4** (middle), mixture of complexes **4** and **8** after 30 minutes (bottom).

Ligand exchange with bridged complex 8: Bridged palladium(II) complex **8** was mixed with 0.5 equivalents of stopper **4**. After 30 minutes new signals appeared, approximately 15% in total. Signals corresponding to the heterocomplex (10% of total) were identified by their characteristic coupling constant of $J_{\text{P-P}} = 527$ Hz. Peaks **A**, **B** and **C** could not be identified, but most probably correspond to a hetero-bridged complex (**A** and **C**) and the diphenylphosphine homo-bridged complex (**B**).