Facile Design of Renewable Lignin Copolymers by Photoinitiated RAFT Polymerization as Pickering Emulsions Stabilizers

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Table S1. The content of modified groups in different lignin-based chain transfer agents.

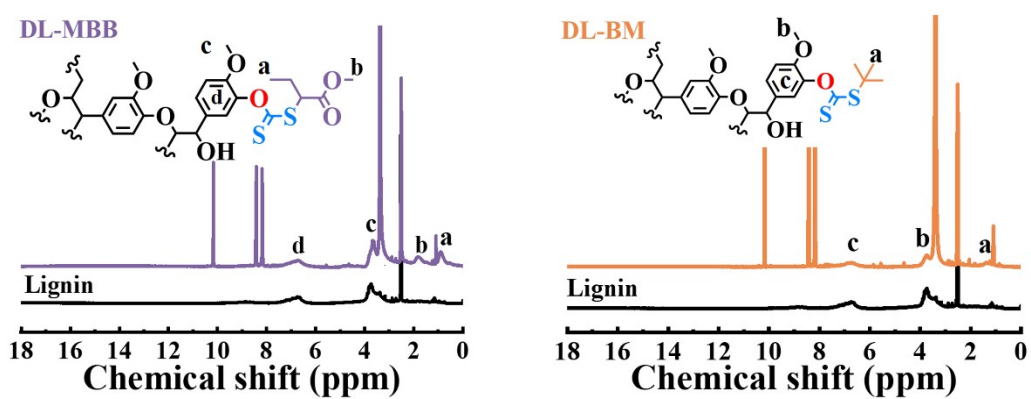| Sample Label	Sample (mg)	P-nitrobenzaldehyde (mg)	Content of modified groups (mmol/g)
DL-EBPL	6.2	3.3	2.17
DL-MBB	8.2	2.1	1.74
DL-BM	5.6	2.9	0.39

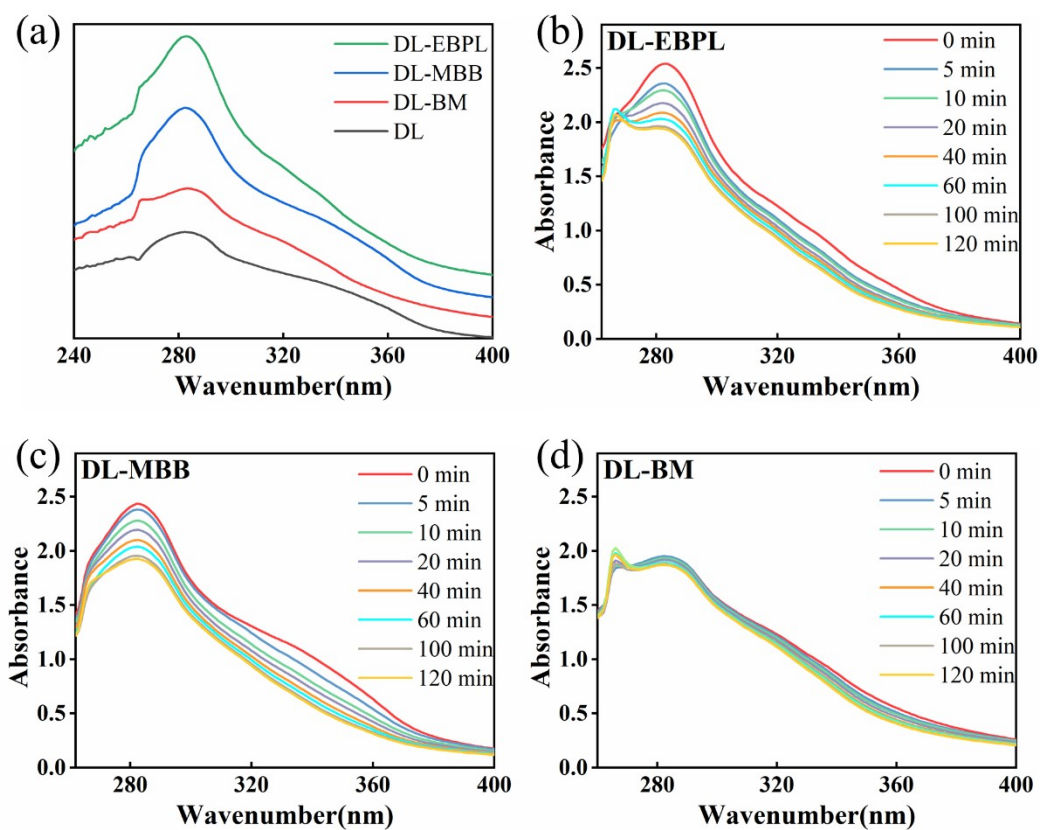**Figure S1**. ^{1}H NMR spectra of the DL-MBB and DL-BM

Figure S2. UV−vis absorption spectra for DL, DL-EBPL, DL-MBB and DL-BM in DMF and the steady state photolysis of them with 365 nm LED irradiation.
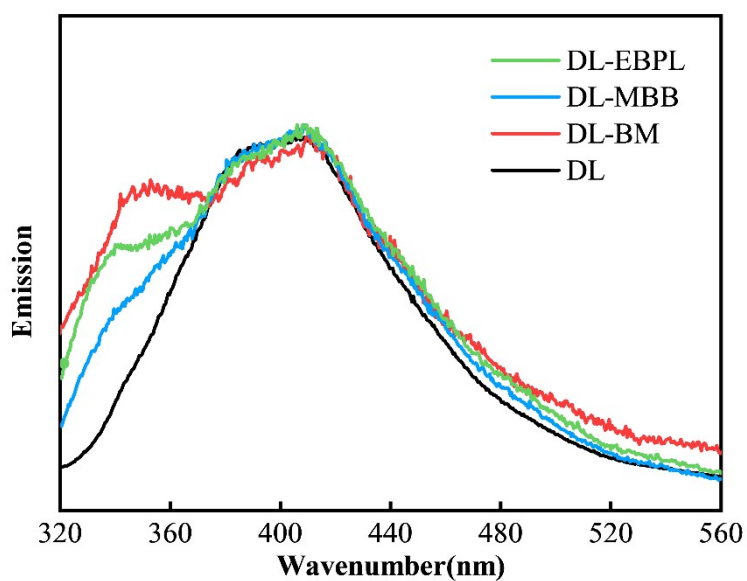

Figure S3. Emission (300 nm excitation) spectra of different lignin-based chain transfer agents and lignin in DMF.
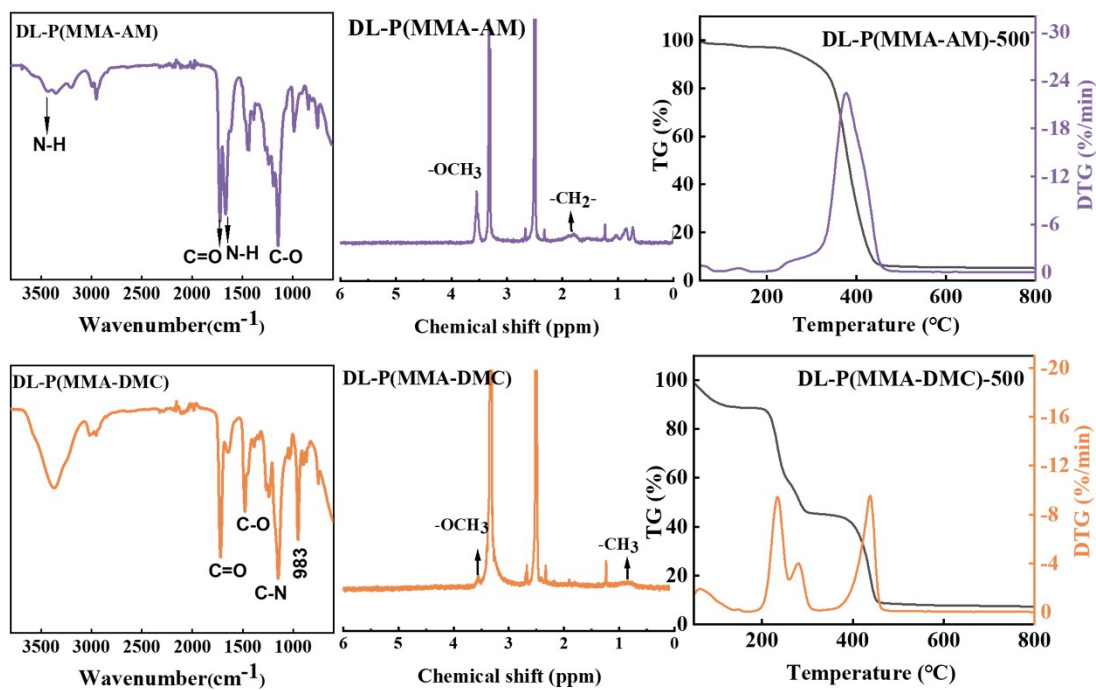
Figure S4. FT-IR, ^{1}HNMR, weight loss and weight loss rate of the DL-P(MMA-AM)
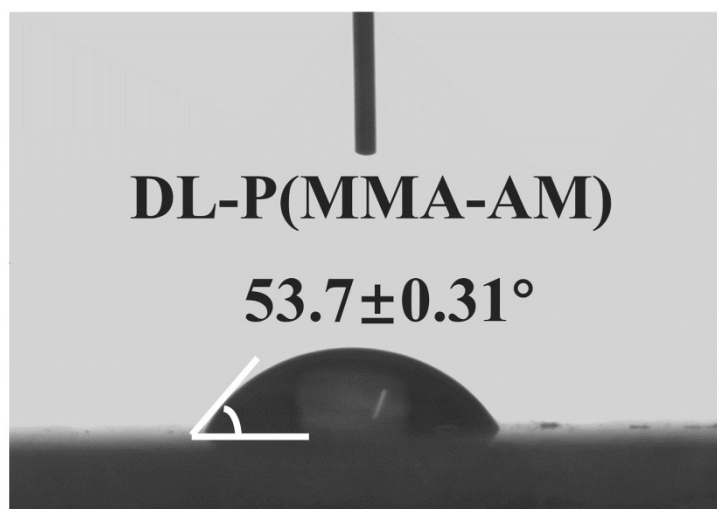
and DL-P(MMA-DMC) copolymers.

Figure S5. Contact angle of control (water on the glass surface)

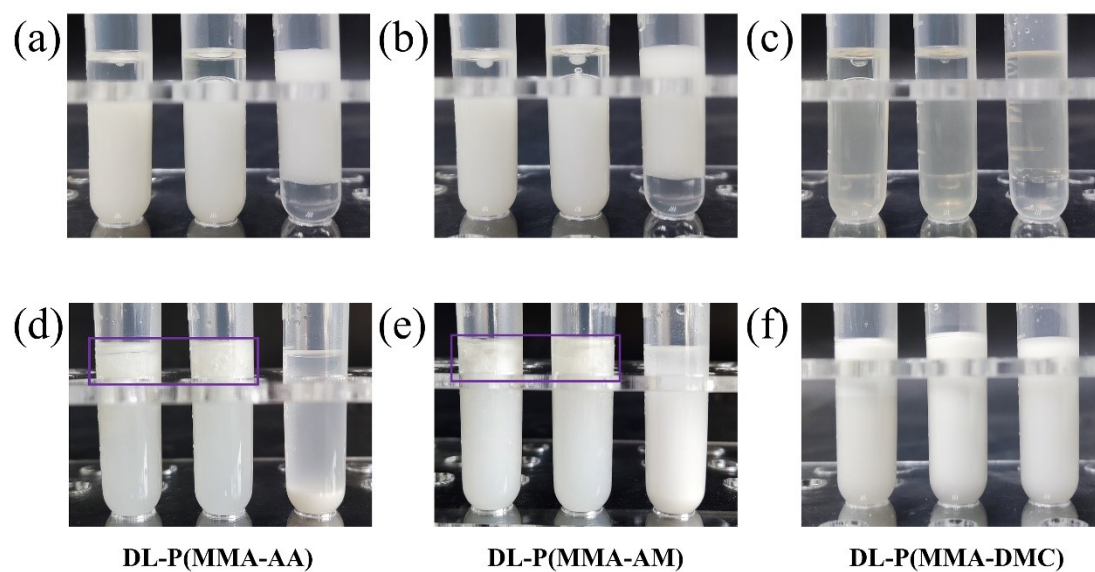**DL-P(MMA-AA)**   **DL-P(MMA-AM)**   **DL-P(MMA-DMC)**

Figure S6. Photographs of emulsions before homogenization (a, b and c) and Pickering emulsions after homogenization for 60 s, RO/W =5:1, represented here by: (a)(d) LCNP(DL-P(MMA-DMC)), (b)(e) LCNP(DL-P(MMA-AM)) and (c)(f) LCNP(DL-P(MMA-AA)). From left to right, in each case (a–f): FAME, S200 and EGDA.