

Supporting information

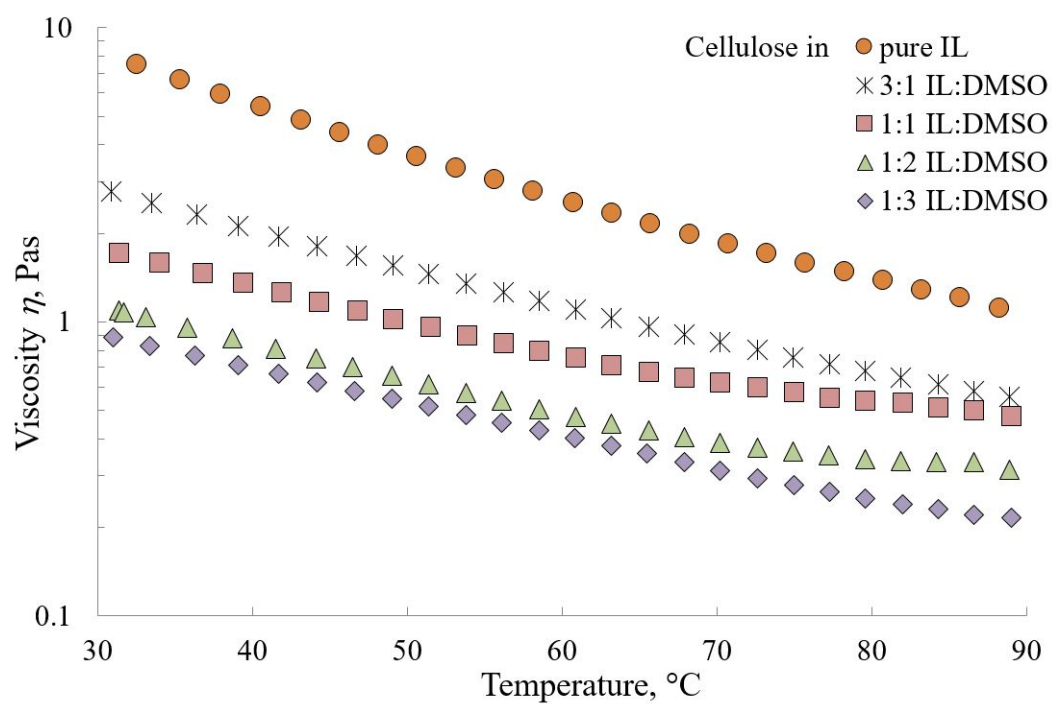


Figure S1. Temperature dependence of viscosity of cellulose solution in IL:DMSO binary solvent at various IL:DMSO ratios. The concentration of all solutions is 2 wt%.

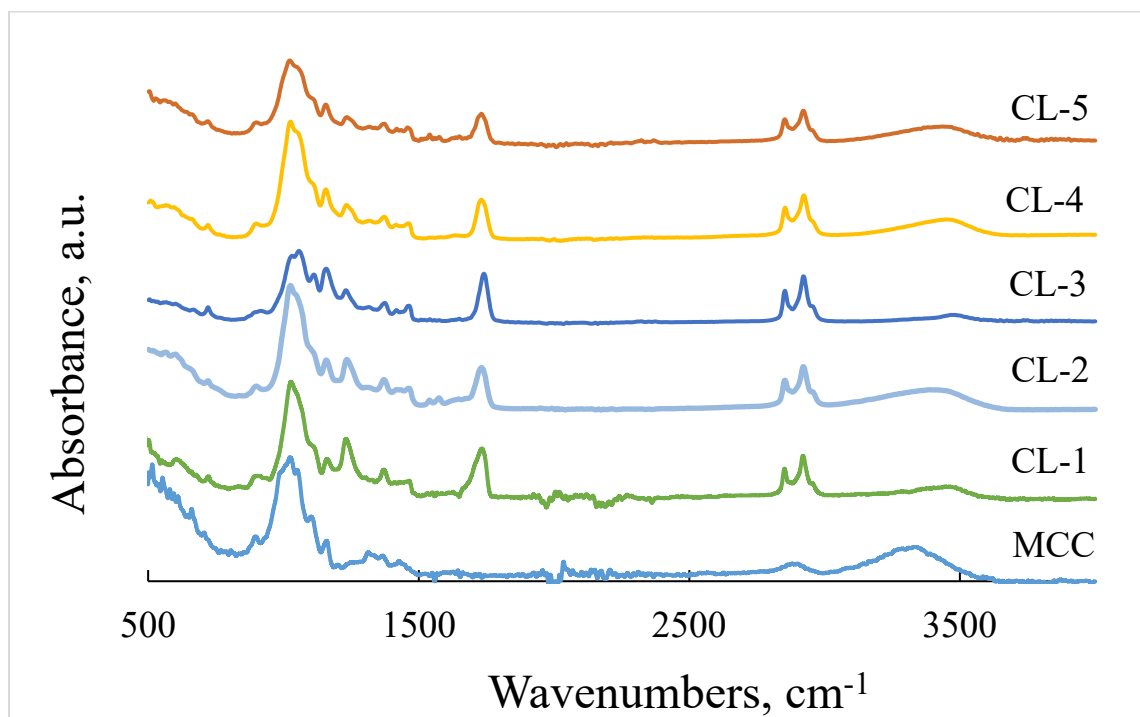
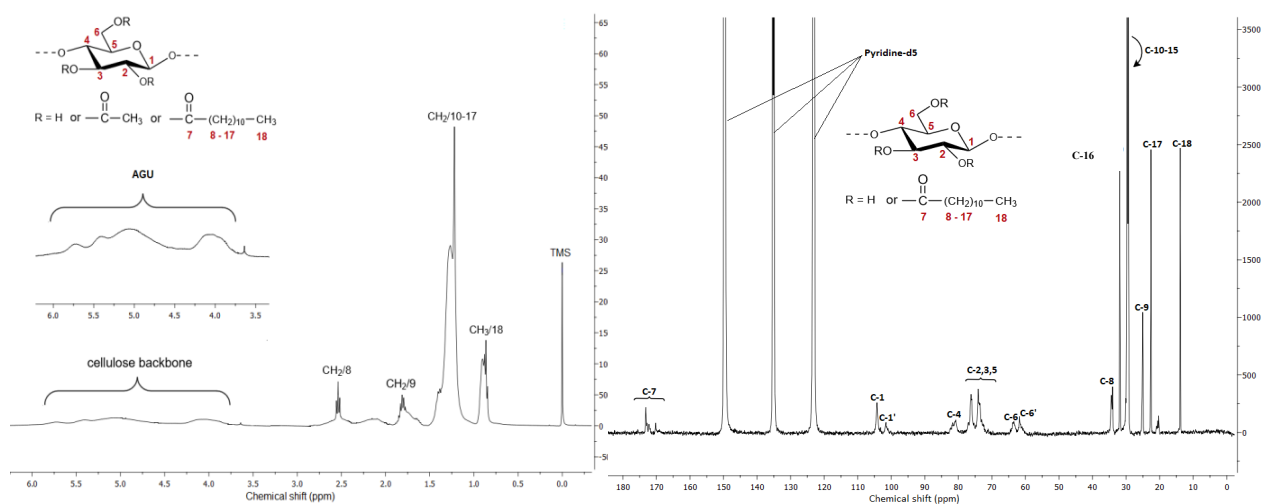


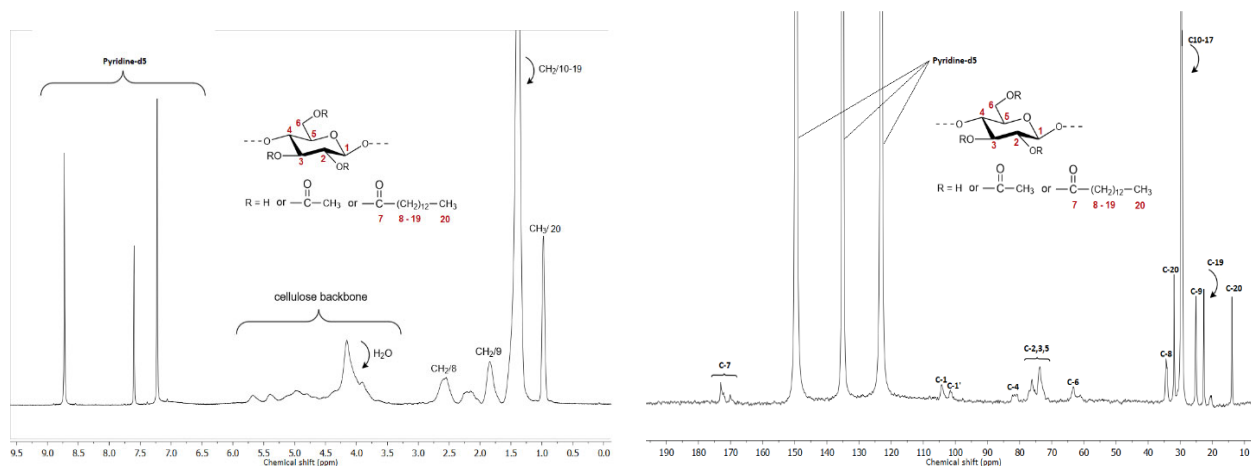
Figure S2. FTIR spectra of MCC and cellulose laurates obtained in IL:DMSO mixture of various ratios.



(a)

(b)

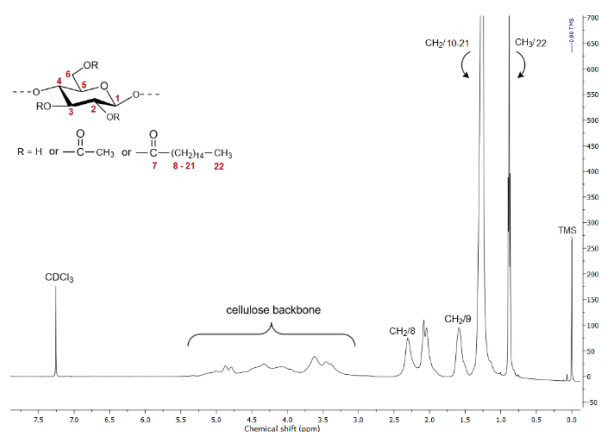
Figure S3. (a) ¹H NMR spectrum of Cellulose Laurate CL-3 in Pyridine-d₅ (500 MHz, 25°C); (b) Full ¹³C NMR spectrum of Cellulose Laurate CL-3 in Pyridine-d₅ (125 MHz, 80 °C).



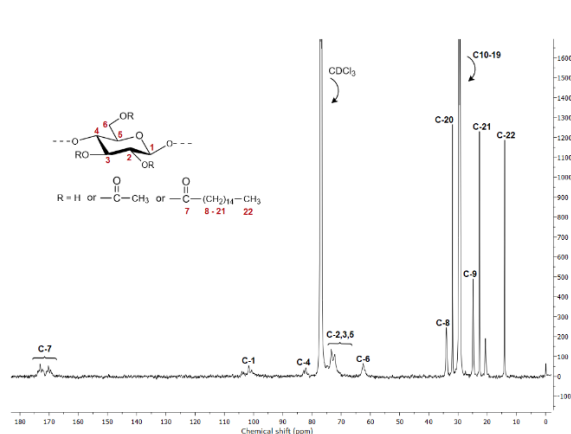
(a)

(b)

Figure S4. (a) ¹H NMR spectrum of Cellulose Myristate in Pyridine-d₅ (500 MHz, 80°C); (b) ¹³C NMR spectrum of Cellulose Myristate in Pyridine-d₅ (125 MHz, 80 °C).

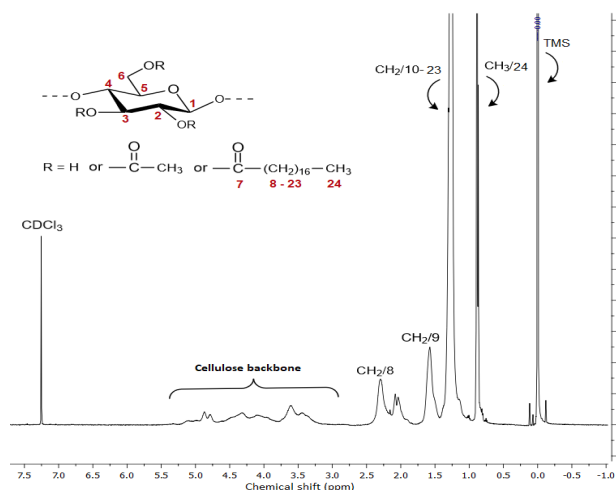


(a)

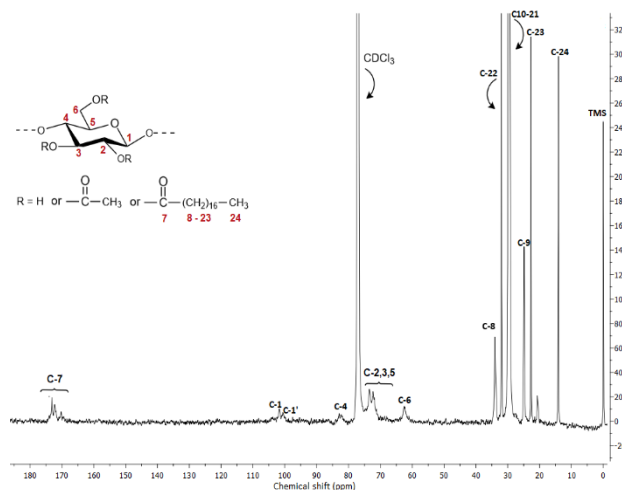


(b)

Figure S5. (a) ¹H NMR spectrum of Cellulose Palmitate CP-3 in Chloroform-d (500 MHz, 25 °C); (b) ¹³C NMR spectrum of Cellulose Palmitate CP-3 in Chloroform-d (125 MHz, 40 °C).



(a)



(b)

Figure S6. (a) ¹H NMR spectrum of Cellulose Stearate CS-2 in Chloroform-d (500 MHz, 40 °C); (b) ¹³C NMR spectrum of Cellulose Stearate CS-2 in Chloroform-d (125 MHz, 40 °C).

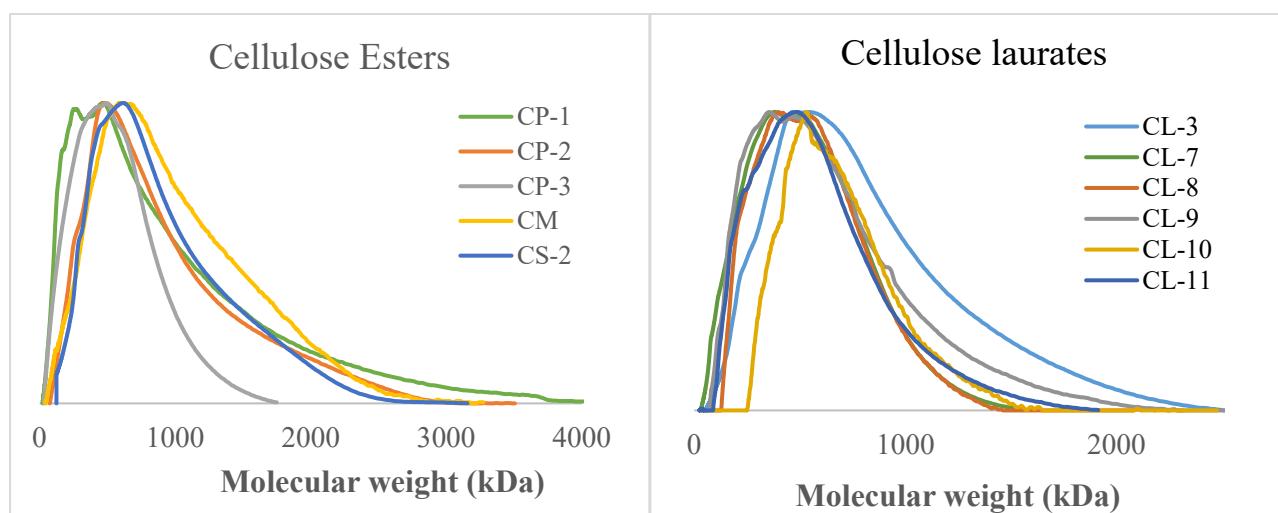


Figure S7. Molar mass distribution of cellulose esters.

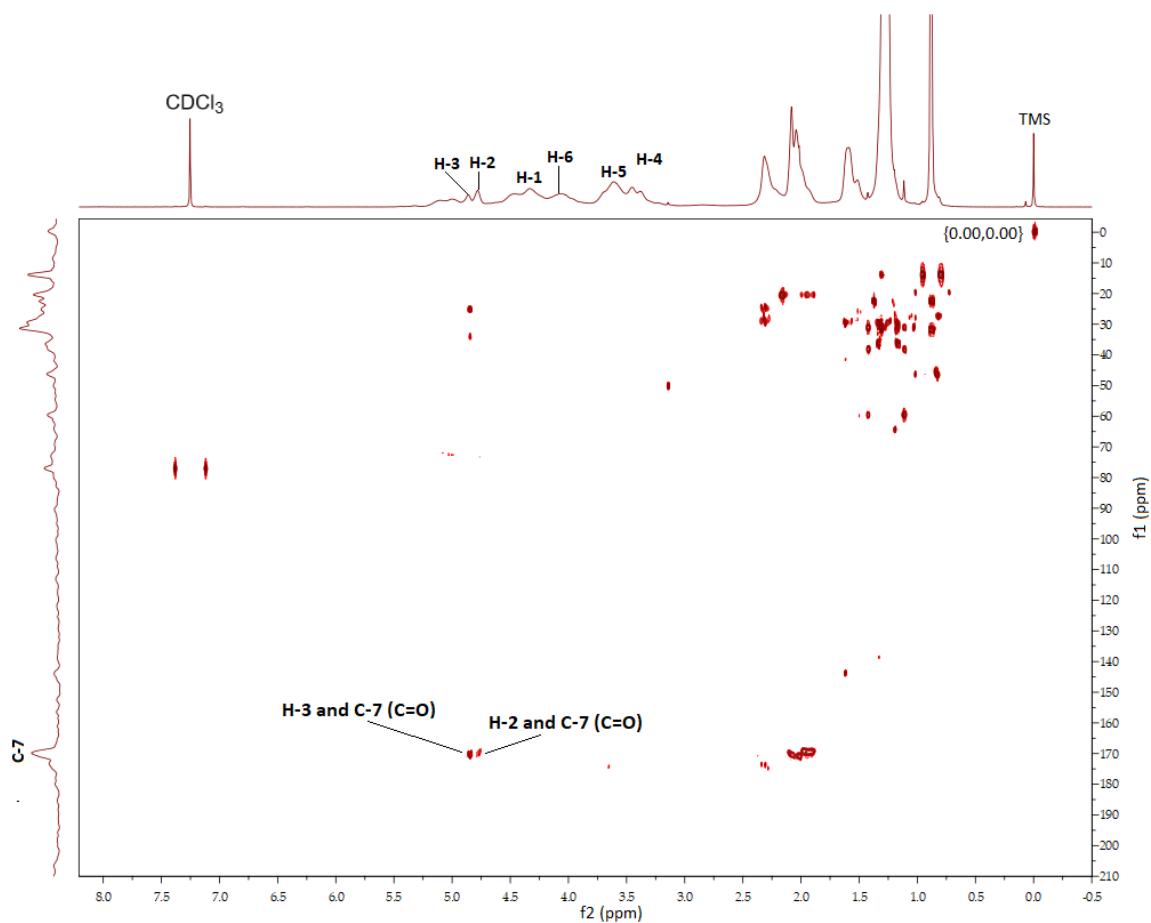


Figure S8. HMBC spectrum of Cellulose Palmitate (CP-3) in Chloroform-d (800 MHz Cryoprobe, 256 scans, 128 increments, 16 h acquisition time, 323 K).