

Efficient catalysis of H₂O₂ to generate the hydroxyl radicals with ionic liquid molecules and application in cotton green chemistry process

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Supporting Data

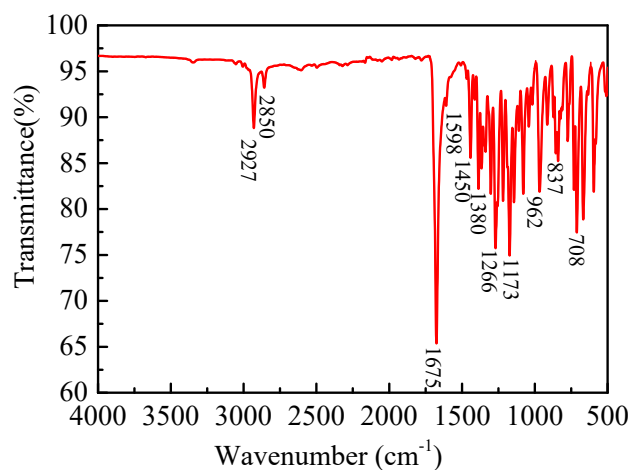


Fig. S1 FTIR of intermediate N-[(4-chloromethyl)-benzoyl] caprolactam

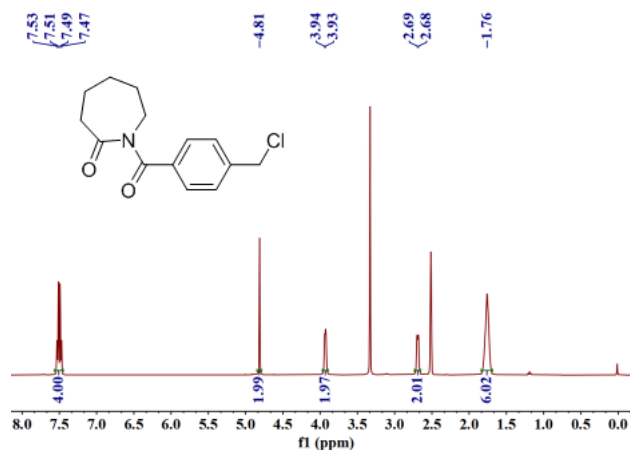


Fig. S2 ¹H NMR of intermediate N-[(4-chloromethyl)-benzoyl] caprolactam

Fig. S3 ¹³C NMR of intermediate N-[(4-chloromethyl)-benzoyl] caprolactam

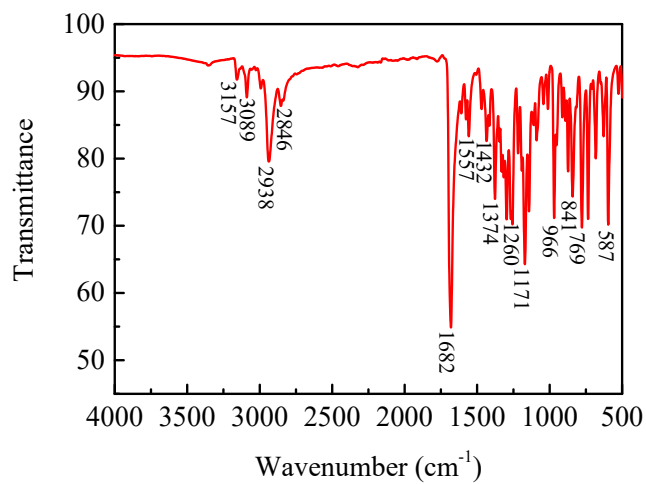


Fig. S4 FTIR of C-1

Fig. S5 ¹H NMR of C-1

Fig. S6 ¹³C NMR of C-1

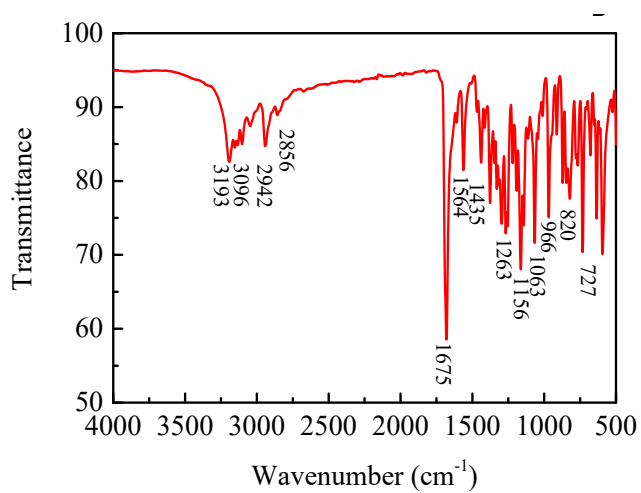


Fig. S7 FTIR of C-2

Fig. S8 ¹H NMR of C-2

Fig. S9 ¹³C NMR of C-2

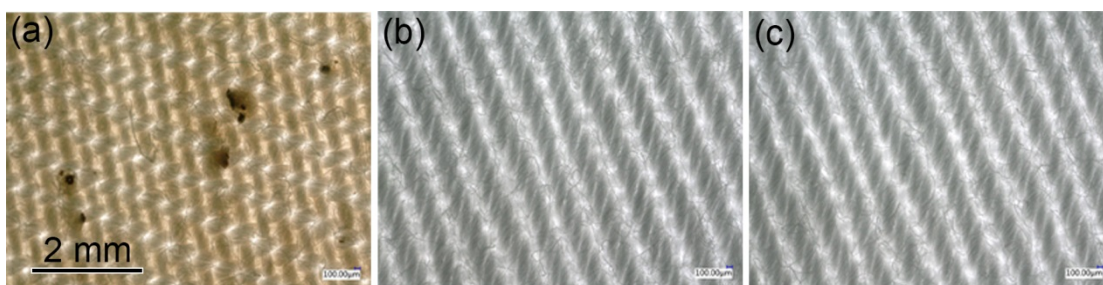


Fig. S10. Microscope images of the cotton fabrics. (a) Cotton fabrics with amorphous cottonseed shell residues pretreated with water without IL molecules; (b) Cotton fabrics pretreated with IL C-1; (c) Cotton fabrics pretreated with IL C-2.

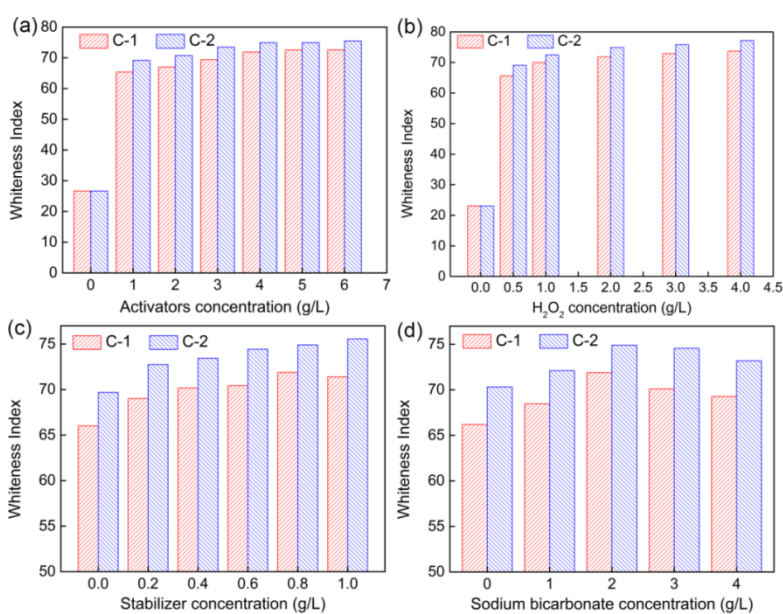


Fig. S11. Effect of (a) activators concentration, (b) H₂O₂ concentration, (c) stabilizer concentration and (d) sodium bicarbonate concentration on the whiteness index of the bleached fabric.

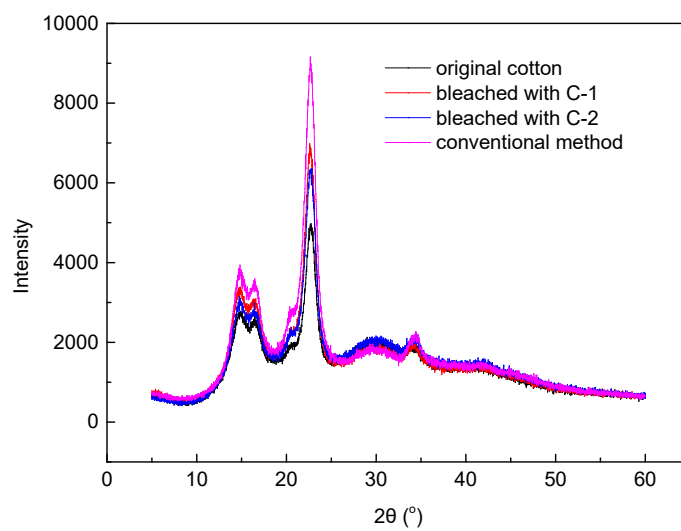


Fig. S12 XRD of the cotton fibre