

Supporting information

A Biopolymer Mediated Efficient Synthesis of Cyclic carbonates from Epoxides and Carbon Dioxide

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1. TGA

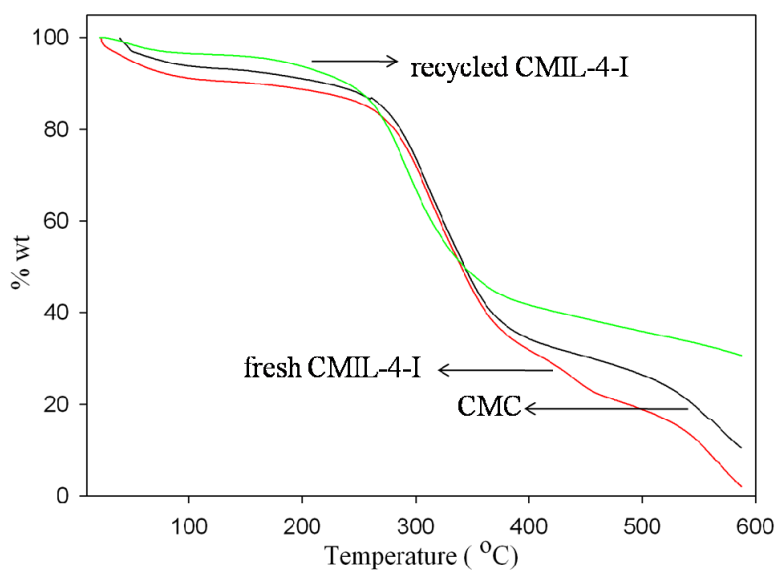


Fig. S1 thermogravimetric curves for CMC, fresh CMIL-4-I and recycled CMIL-4-I (four times)

2. DFT

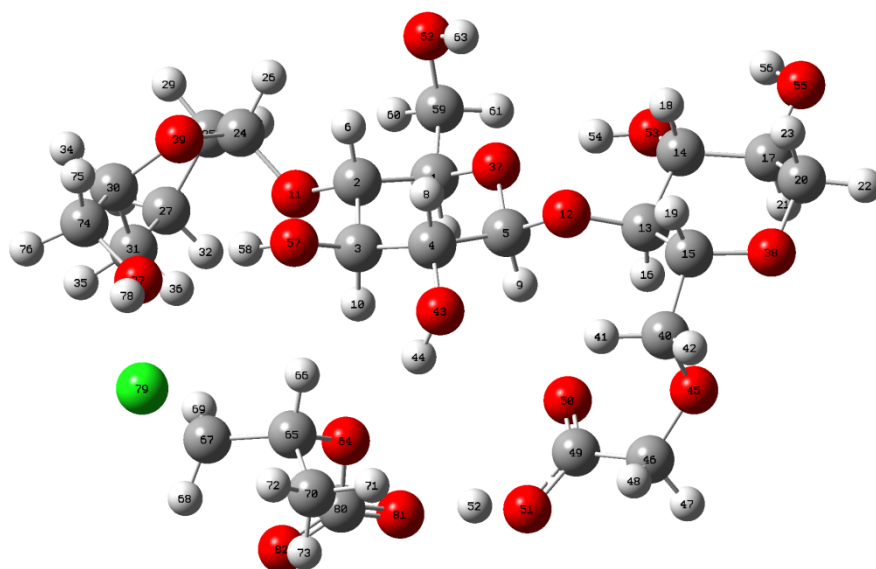


Fig. S2 The ring opened product complex in the CMC mechanism as shown in **Scheme 3**.

Bond distances (Å): H 78- C179 = 2.359, C179- C67 = 1.869, C67-O82 = 2.670
O64- H44 = 1.925, O51 - H52 = 1.060, O81 - H52 = 1.428, O50 - H9 = 2.149

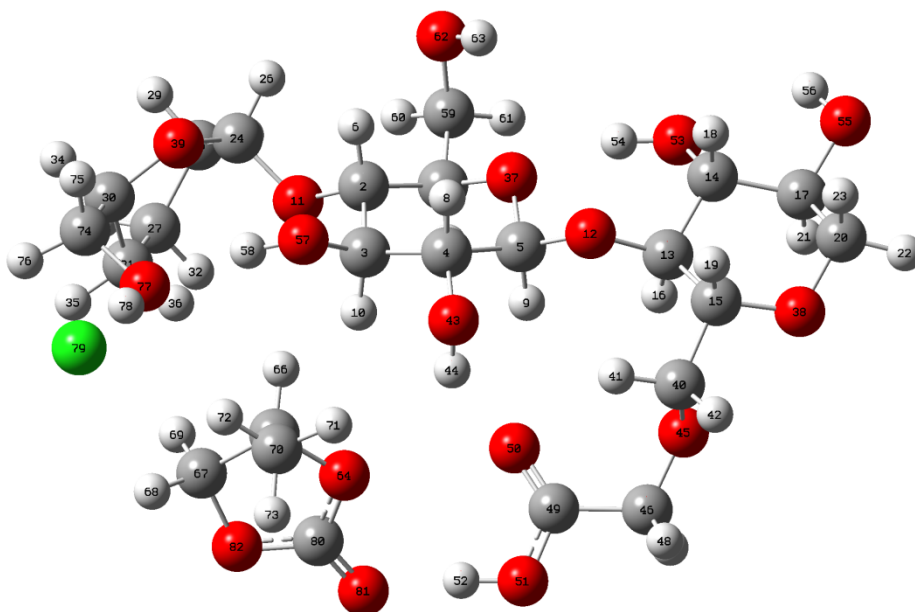


Fig. S3. The ring closed product complex in the CMC mechanism of **Scheme 3**

Bond distances (Å): O-H78...Cl79 = 1.975, Cl...C67 = 3.289, O81...H52 = 1.611,
H44- O50 = 2.03, C80 – O81 = 1.223, C82-O80 = 1.330, O51- H52 = 1.010

3. Synthesis of IL-n-X

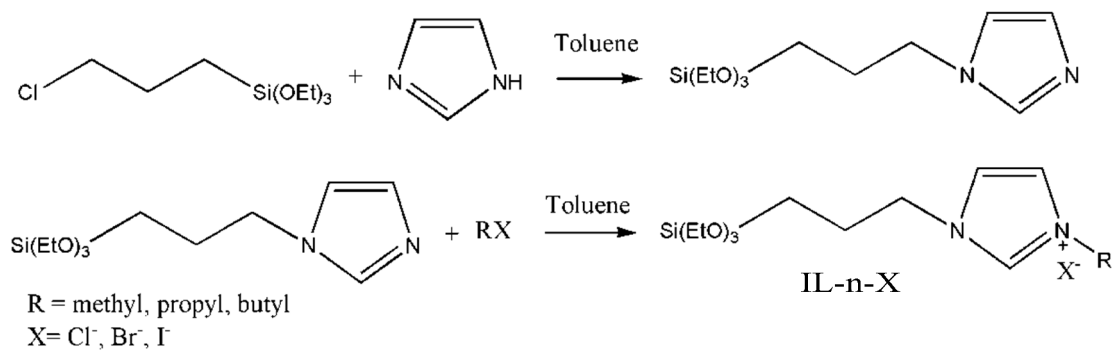


Fig. S4. General method of synthesis of the ionic liquid, IL-n-X