

## Supporting information

### **Charging Toward Sustainability: MgCl<sub>2</sub> doped Chitosan-Dextran Polyblend Electrolytes for Energy Storage Device Applications**

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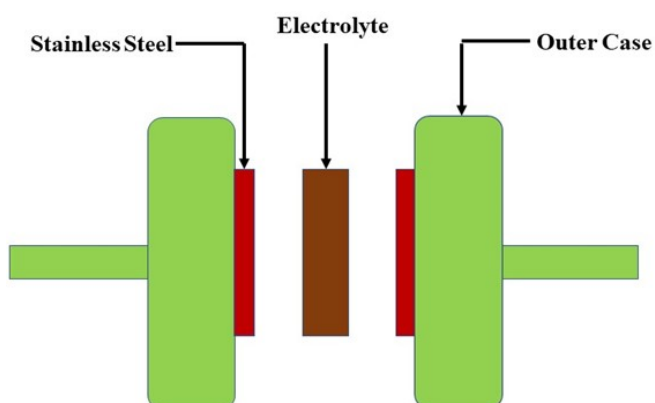


Figure S1. Standard cell arrangement utilized for conducting I-V and I-T investigations

Table 1S: FTIR peak positions for all the prepared SBPE.

FTIR peak Assignment	Wavenumber (cm <sup>-1</sup> )						
	CDC0	CDC5	CDC10	CDC15	CDC20	CDC25	CDC30
-OH Stretching	3277	3267	3266	3257	3247	3266	3266
C-H Stretching	2920	2919	2918	2917	2918	2917	2917
-NH Bending	1551	1547	1549	1550	1549	1548	1530
C-H Bending	1410	1410	1412	1412	1413	1415	1414
C-O Bands	1012	1010	1008	1009	1011	1013	1012

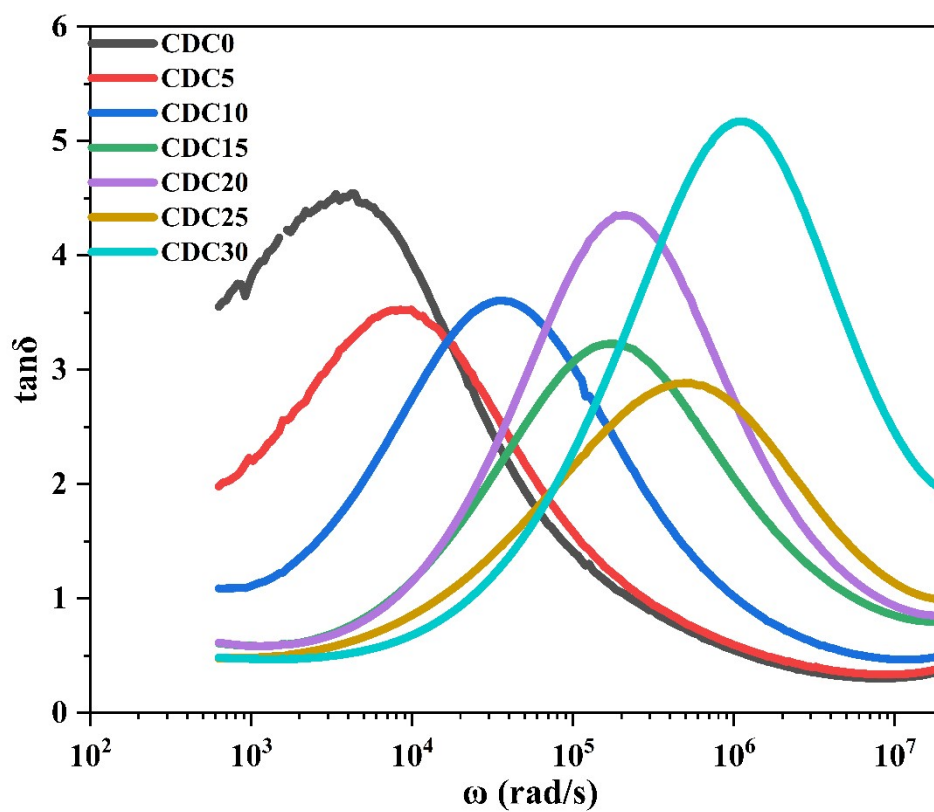


Figure S2. Tangent delta plot for the prepared polymer electrolyte samples.

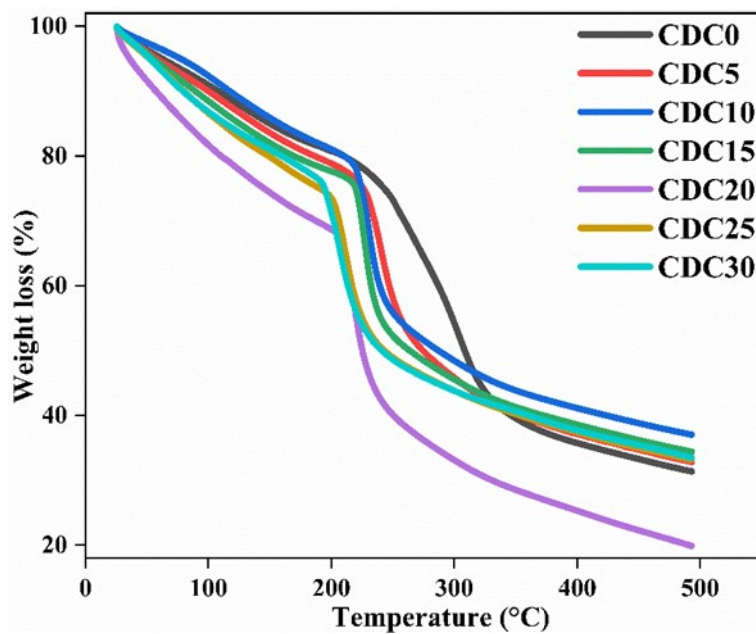


Figure S3. TG thermogram for CS+MC with different concentrations of  $MgCl_2$

Table 2S: Parameters of the cell

<b>Cell parameters</b>	<b>Cell 1</b>	<b>Cell 2</b>
Cell area (cm <sup>2</sup> )	1.23	1.23
Weight of the cell (g)	1.11	1.02
Effective diameter of the cell (cm)	1.30	1.30
Thickness of the cell(cm)	0.44	0.44
Open circuit voltage (V)	1.94	1.90
Current drawn (mA)	1.6	1.9
Current density (mAcm <sup>-2</sup> )	1.30	1.54
Discharge time plateau region (h)	20	19
Discharge capacity (mAh <sup>-1</sup> )	0.08	0.1
Energy density (Whkg <sup>-1</sup> )	56	67
Power density (Wkg <sup>-1</sup> )	3	4