

Supporting Information

Cross-linked β -CD-CMC as an effective aqueous binder for silicon-based anode in rechargeable lithium-ion batteries

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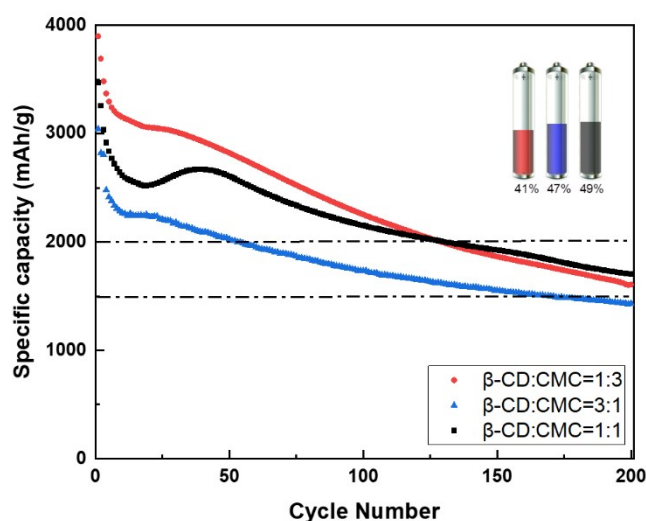


Fig. S1 The cross-linking ratio of β -CD to CMC on the electrochemical performance

The effect of the cross-linking ratio of β -CD to CMC on the electrochemical performance of the electrode is shown in Fig. S1). The binders synthesized with β -CD excess and CMC excess were compared with the samples synthesized in equal amounts, respectively. The results show that the electrode exhibits the characteristics of a pure CMC electrode when there is an excess of CMC, with the electrode having the highest initial capacity. When there is an excess of β -CD the electrode exhibits the characteristics of pure β -CD, with a low initial capacity but a gentle trend of capacity decay. Their capacity retention rates were 41%, 47% and 49% respectively. The equal

synthesized samples have the highest capacity retention and a gentle capacity decay trend.