

Electronic Supplementary Material

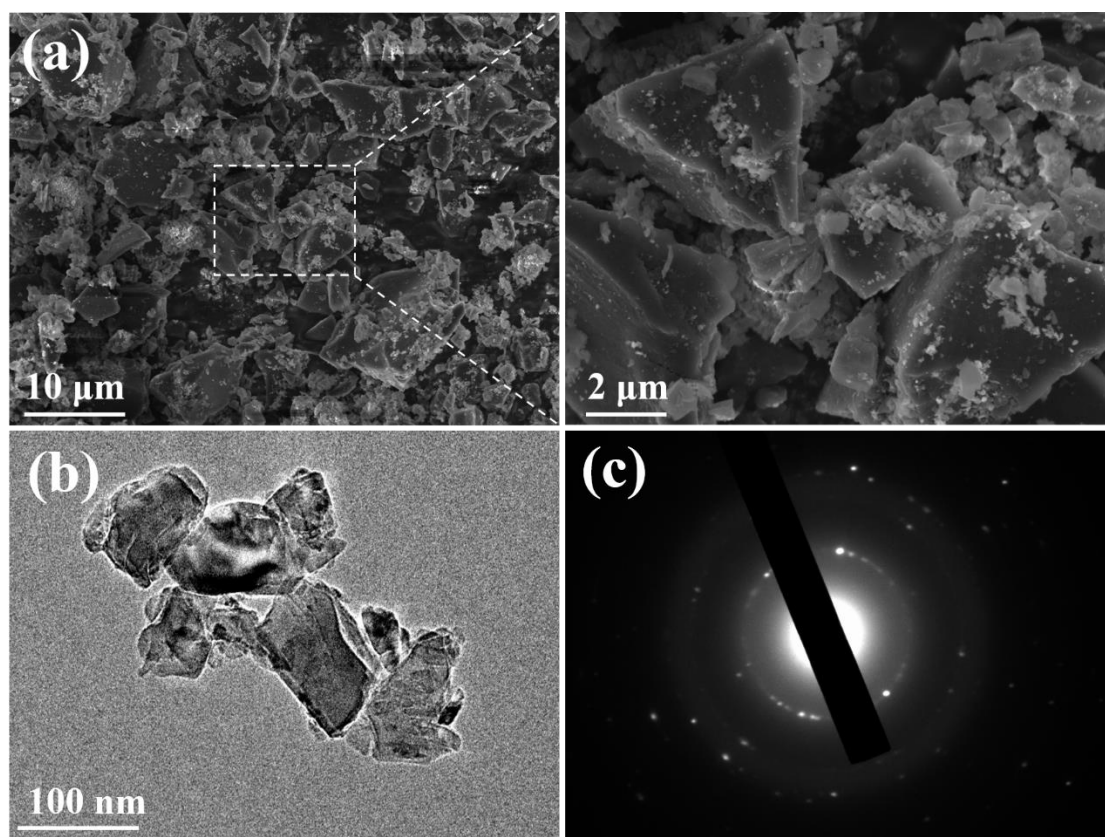


Fig. S1 (a) FESEM micrographs of OMC powder with 30 wt% ND, (b) TEM of ND, and (c) SAED of ND.

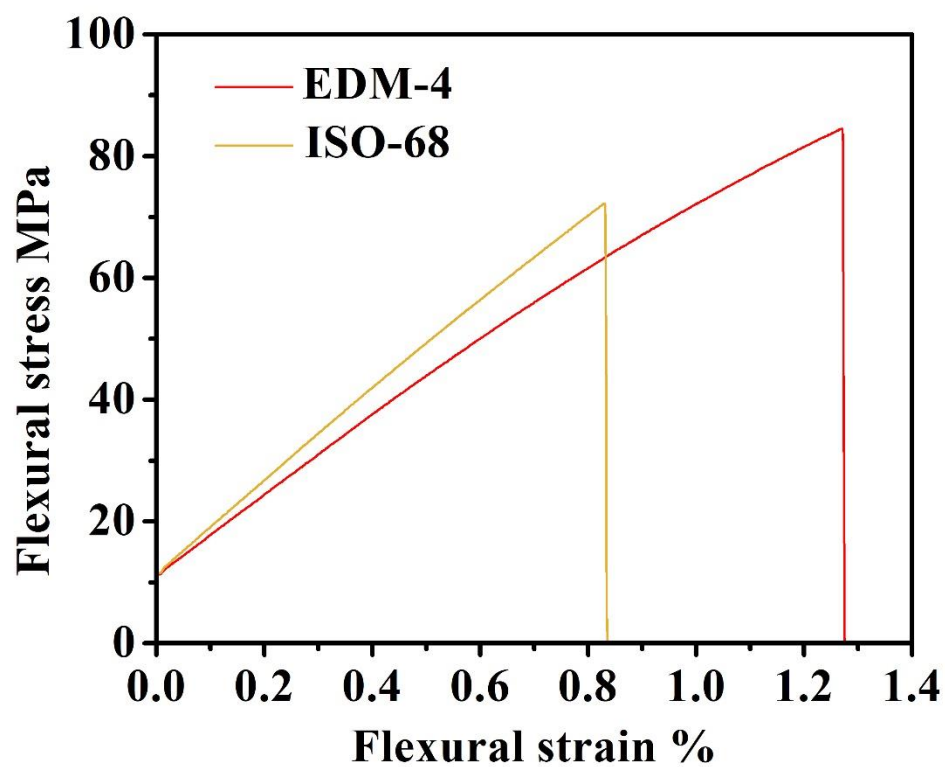


Fig. S2 Stress–strain curves of commercial graphites.

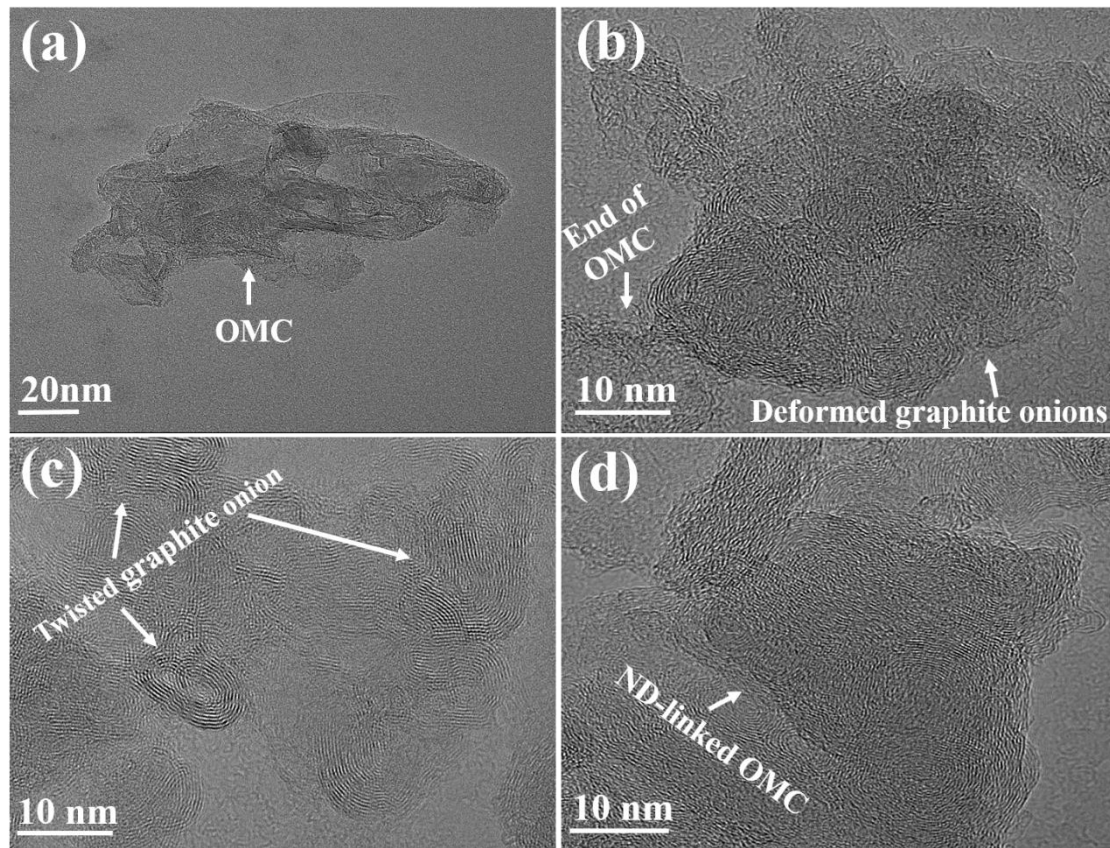


Fig. S3 HRTEM images of ND-30.

Figure S3 shows the representative TEM images of the ND-30 sample. As shown in Fig. S3(a), the pore structure of OMC collapses and intertwines with each other after sintering. Figures S3(b)–S3(d) show concentric circular lattice stripes associated with OLC, some of which are polygonal. The OLC structure derived from ND is affected by the temperature and holding time. The contact resistance during the SPS process generates localized high temperatures that results in a polygonal structure. In addition, the friction between the OLC under pressure makes the outer layer of the OLC easily peel and twist, thus intertwining the OLC with the fragments of sintered OMC, as shown in Fig. S3(d).