

Graphitization of carbon by microwaves

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In this work, we tried to graphitize amorphous carbon by using microwave irradiation. Starting materials are derived from petroleum pitch. 2.45GHz microwave was irradiated to the pitch derived carbon samples after 750°C carbonization process. Before microwave irradiation, carbon samples' d002 value is about 3.46Å and crystallite parameters are small (Lc is about 17Å and La is about 50 Å). After 5 minutes of microwave irradiation, carbon samples' d002 value becomes shorter than 3.43 Å and crystallite size shows tremendous change (Lc becomes about 100 Å and La becomes about 200 Å). This result corresponds to 2000C heat treatment about 1 hour. Structural change had also observed by HR-TEM.