

Supplementary Information

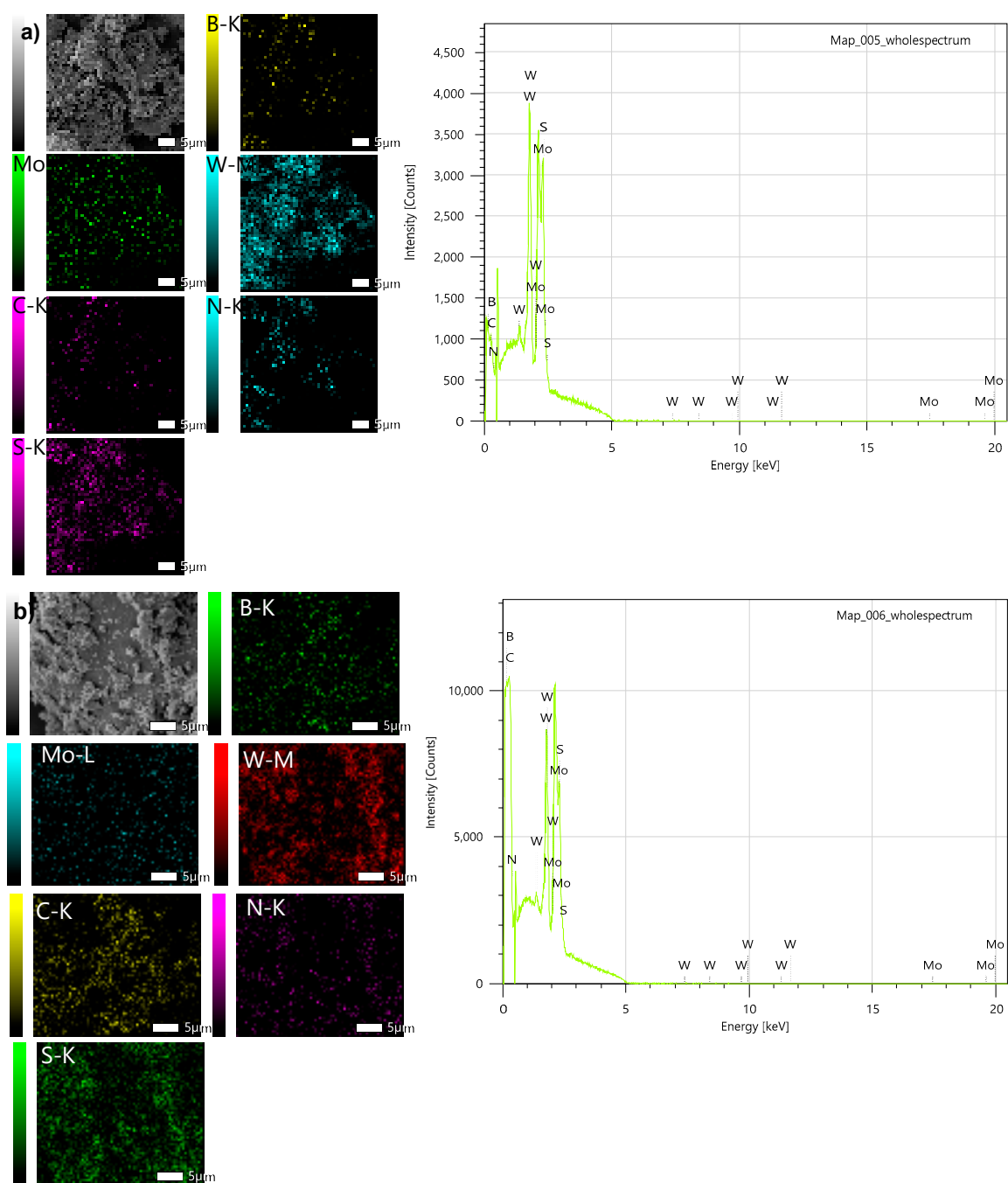
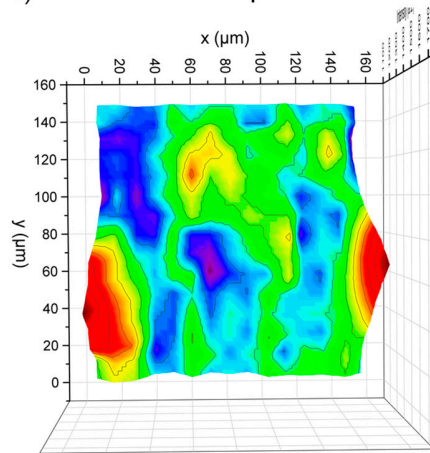


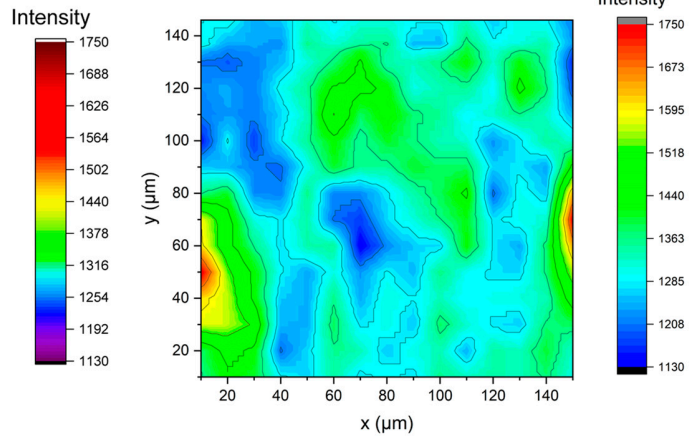
Figure S1: Energy dispersive spectroscopy (EDS) mapping and corresponding spectra eliciting the elemental distribution in **(a)** BM, and **(b)** CM powders.

B₄C phase

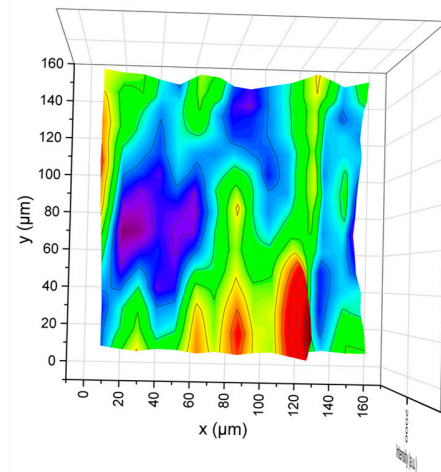
a) 3D-Map



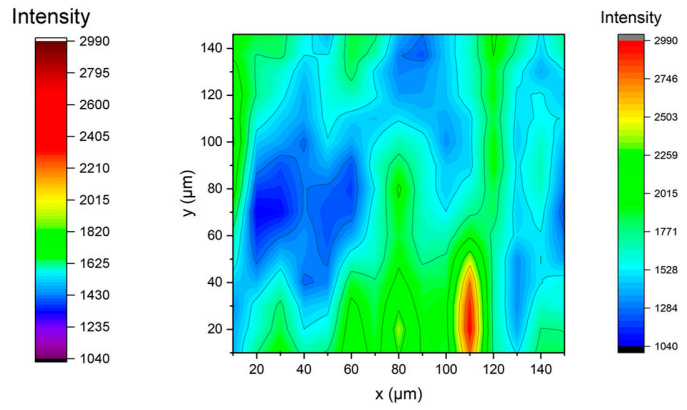
2D-Profile



b) 3D-Map



2D-Profile



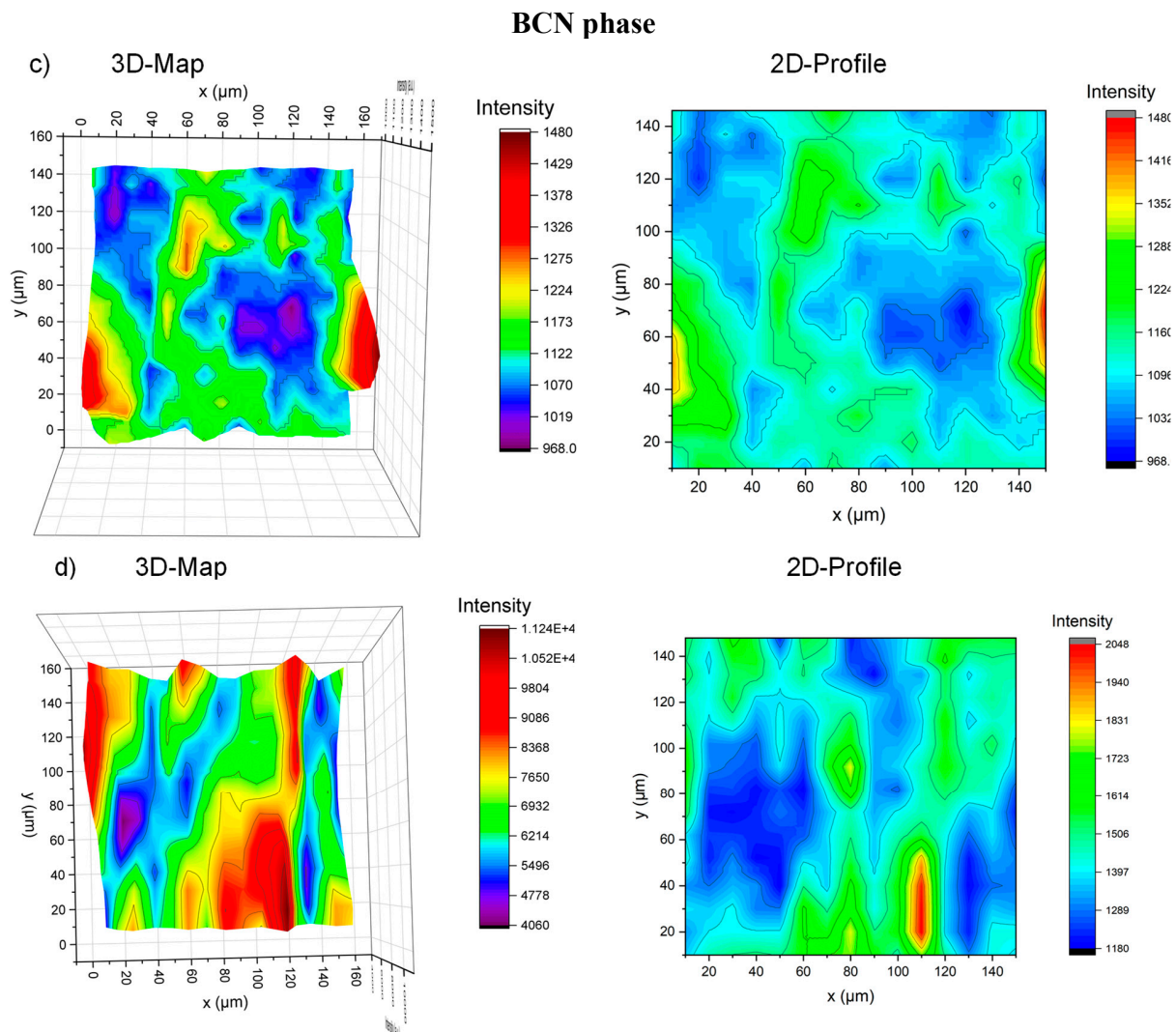


Figure S2: 3D chemical map and the representative 2D profile obtained from the sample surface corresponding to B₄C phase in (a) BM, and (b) CM samples, and BCN phase in (c) BM, and (d) CM sample.