

Ferroic Phase Transitions and Magnetoelectric Coupling in Cobalt Doped BaTiO₃

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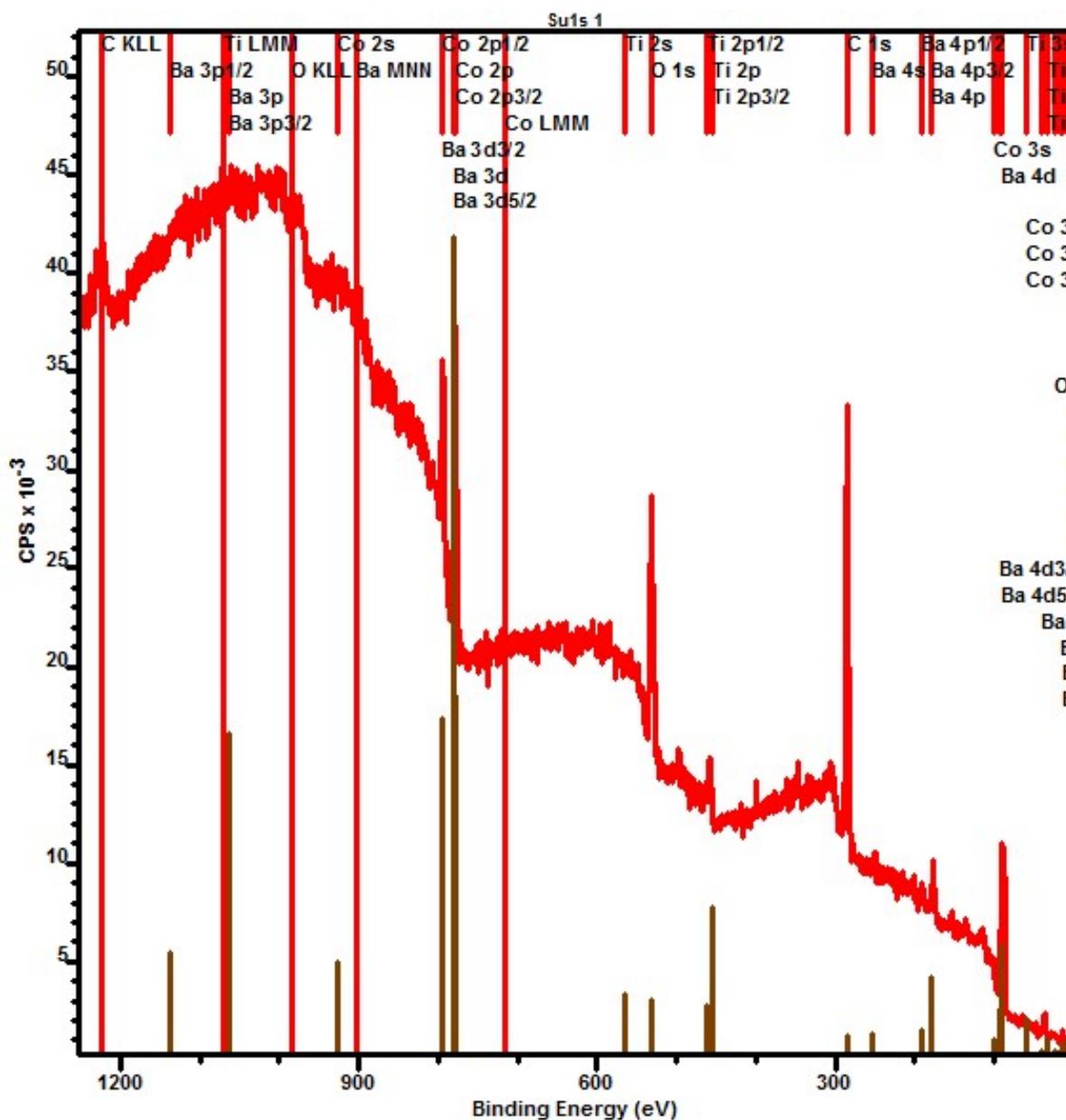
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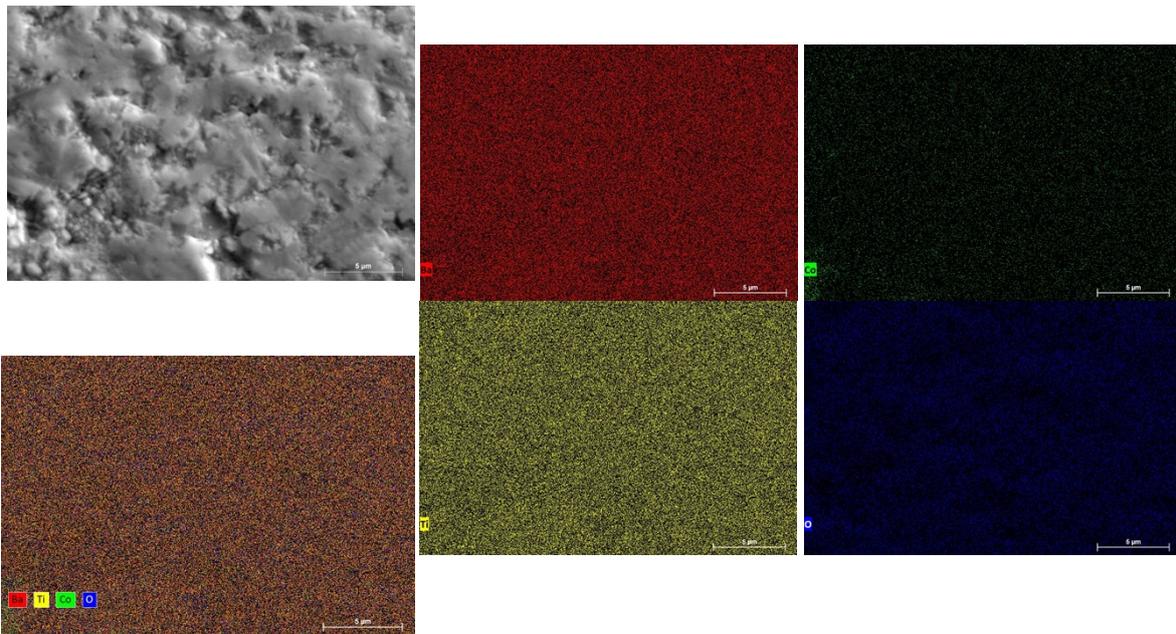
Supplementary material S1: XPS Survey Spectrum of BTCO7 sample



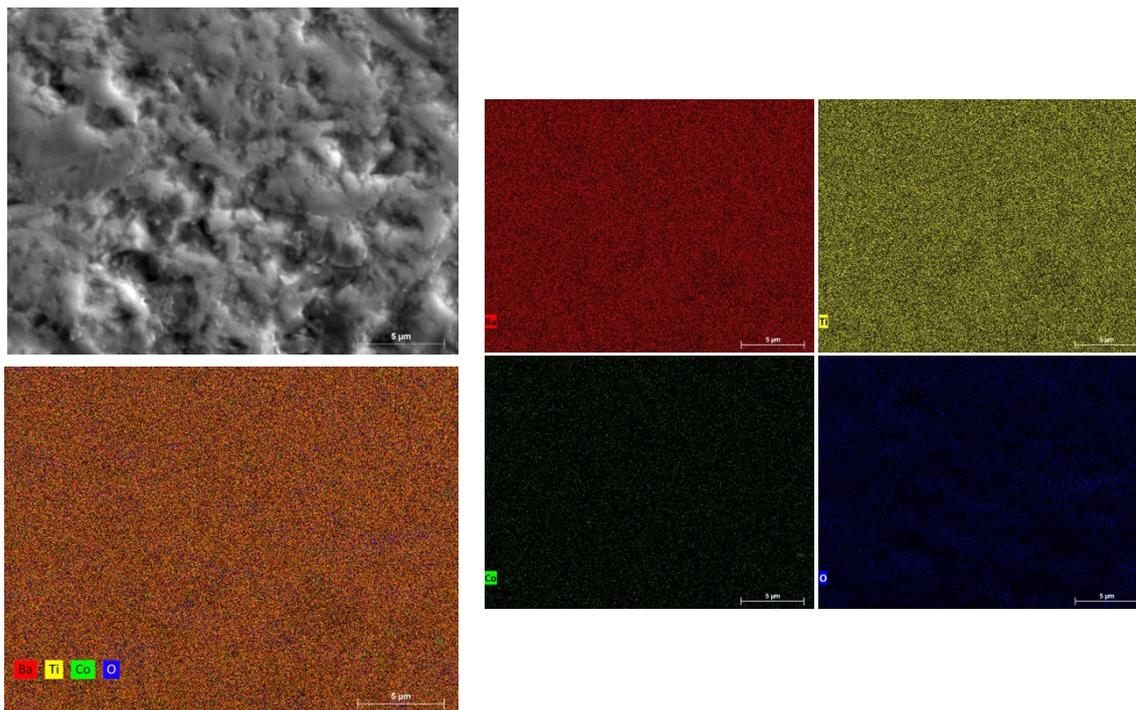
High-resolution X-ray photoelectron spectroscopy (XPS) measurements were carried out to explore the oxidation state of Co and to confirm the presence of all the elements in the BTCO samples. The survey spectrum indicates the the presence of all elements in Co doped BaTiO₃

samples and their binding energies match well with standard values.

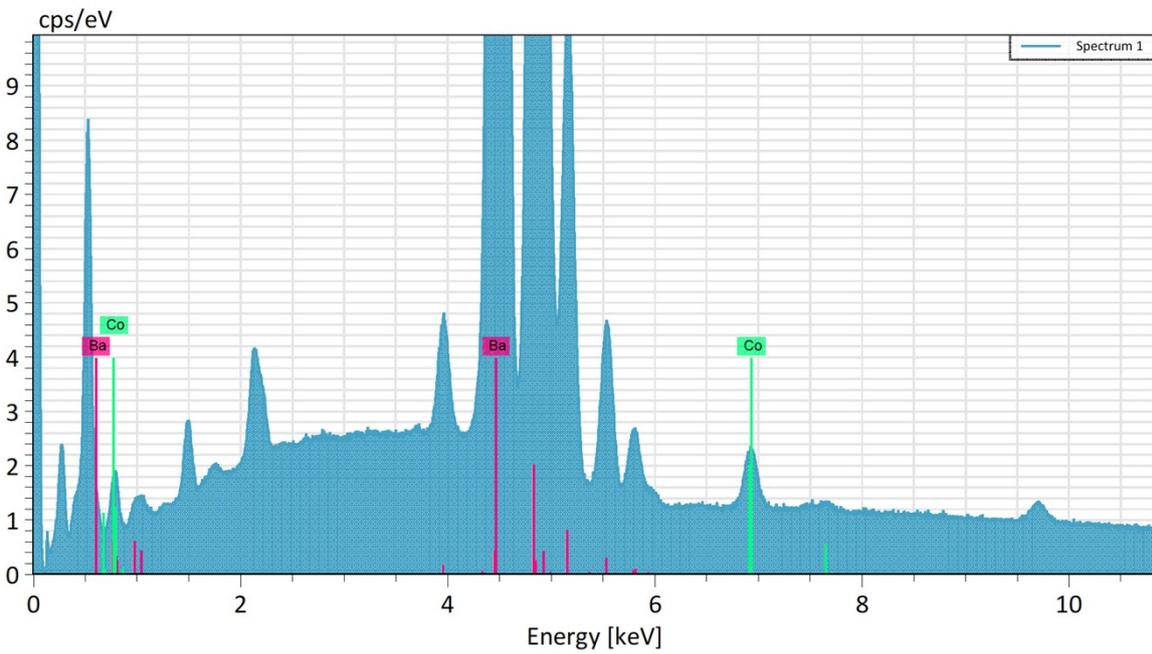
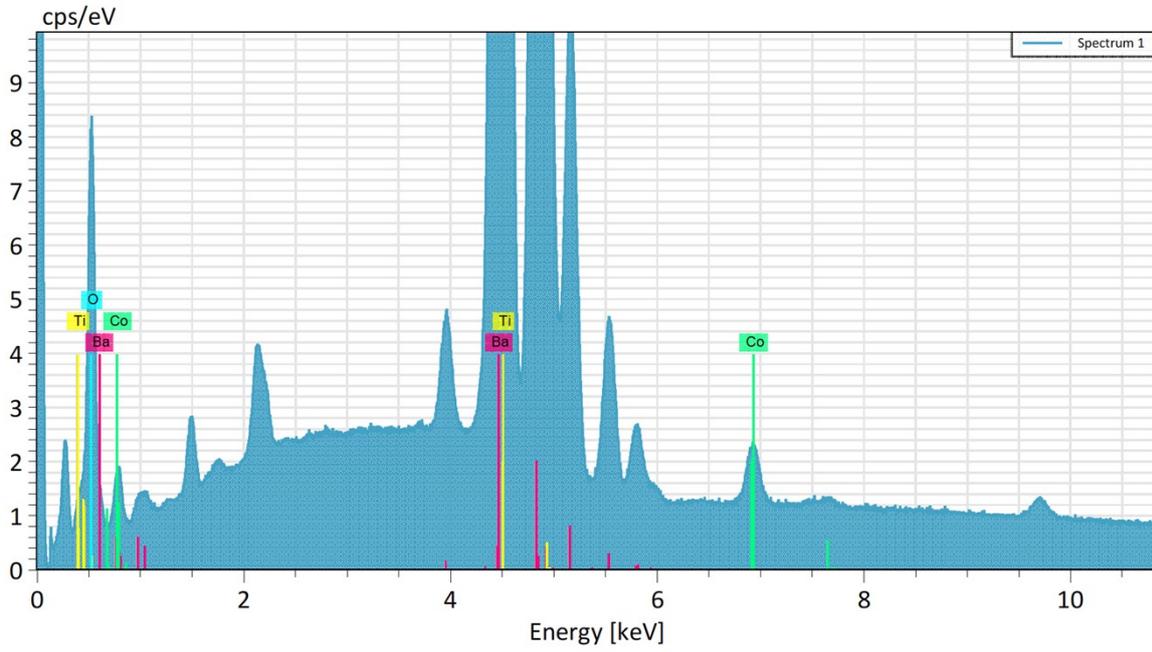
Supplementary material S2: Scanning electron micrographs and EDS elemental mapping of BTCO_3 in a large area of $30 \times 20 \mu\text{m}$.



Supplementary material S3: Scanning electron micrographs and EDS elemental mapping of BTCO5 in a large area of $30 \times 20 \mu\text{m}$.



Supplementary material S4: EDS spectra of BTCO7 sample



We captured the EDS spectra of all the elements in BTCO7 sample and observed distinct peaks from all the elements even though Co has a low concentration and overlaps with some Ba peaks.

