

## **Supplementary information**

### **Features of the phase formation of Cr/Mn/Fe/Co/Ni/Cu codoped bismuth niobate pyrochlore**

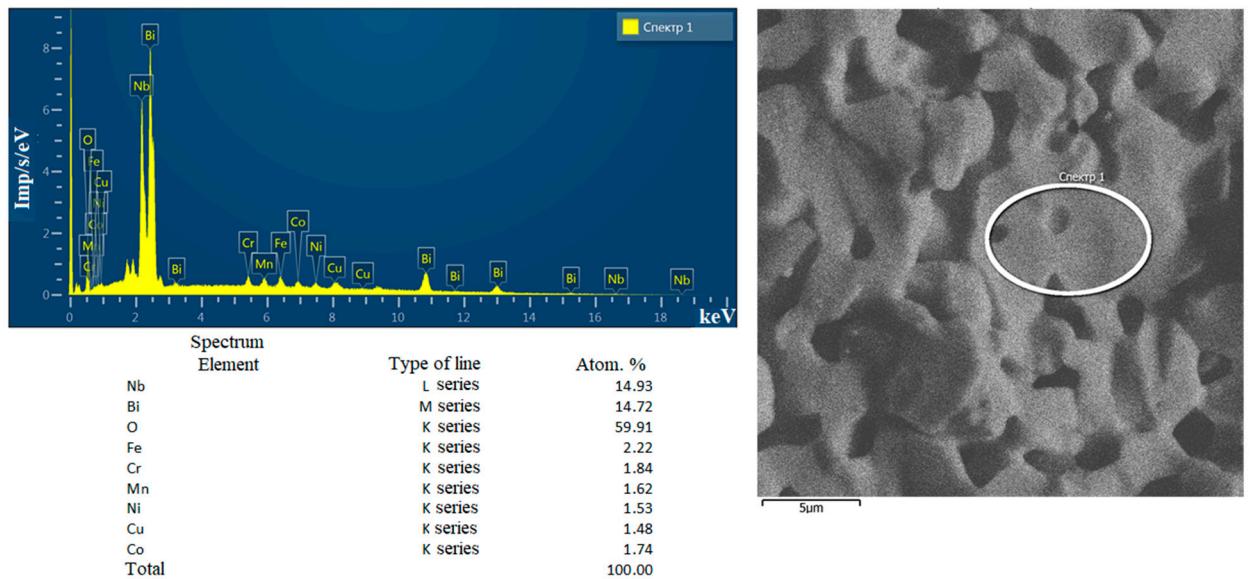
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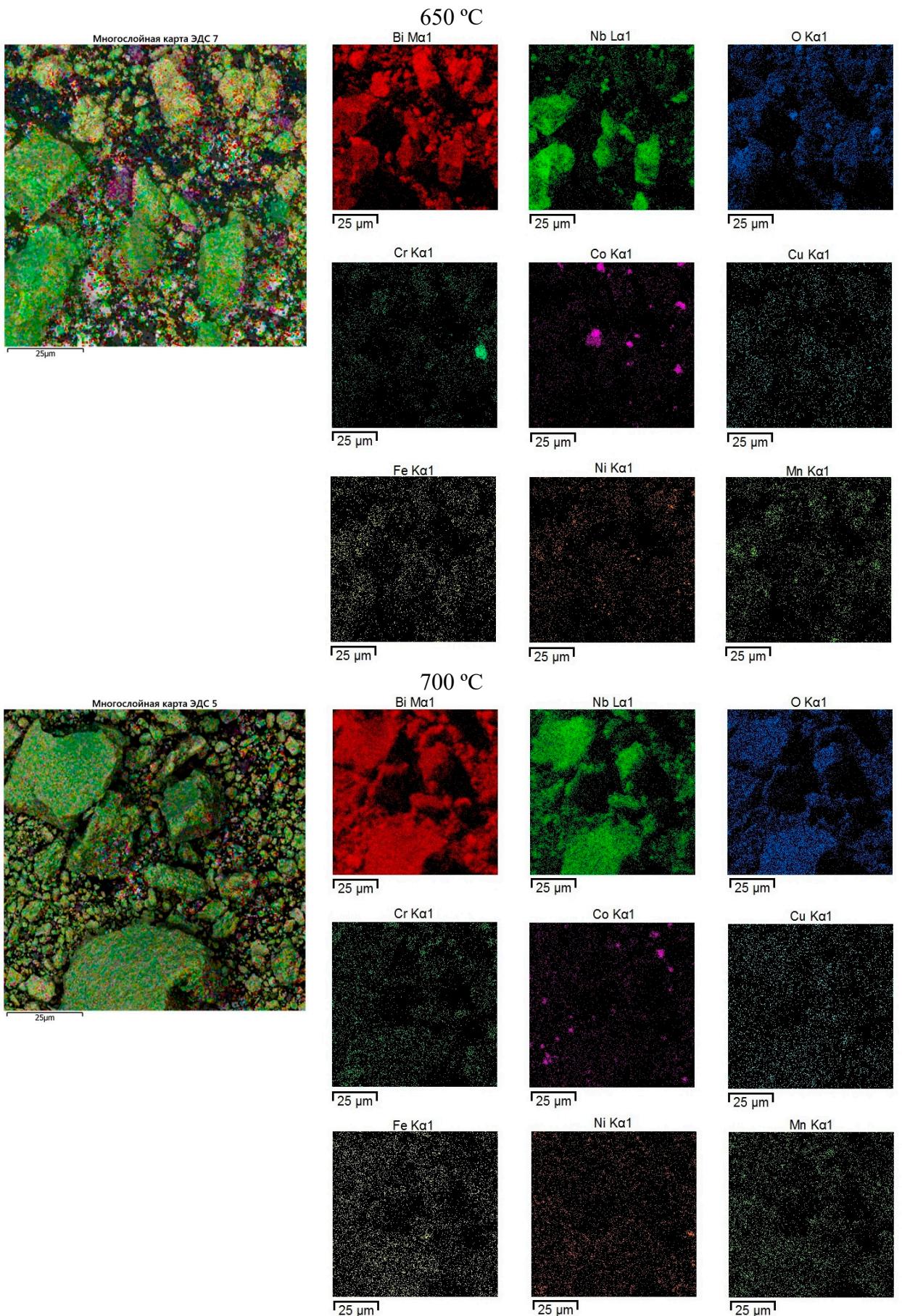
<sup>2</sup>Institute of Geology of the Komi Science Center UB RAS, Pervomaiskaya st. 48, Syktyvkar, 167982, Russia

<sup>3</sup>Saint Petersburg State University, University Emb. 7/9, 199034, St. Petersburg, Russia

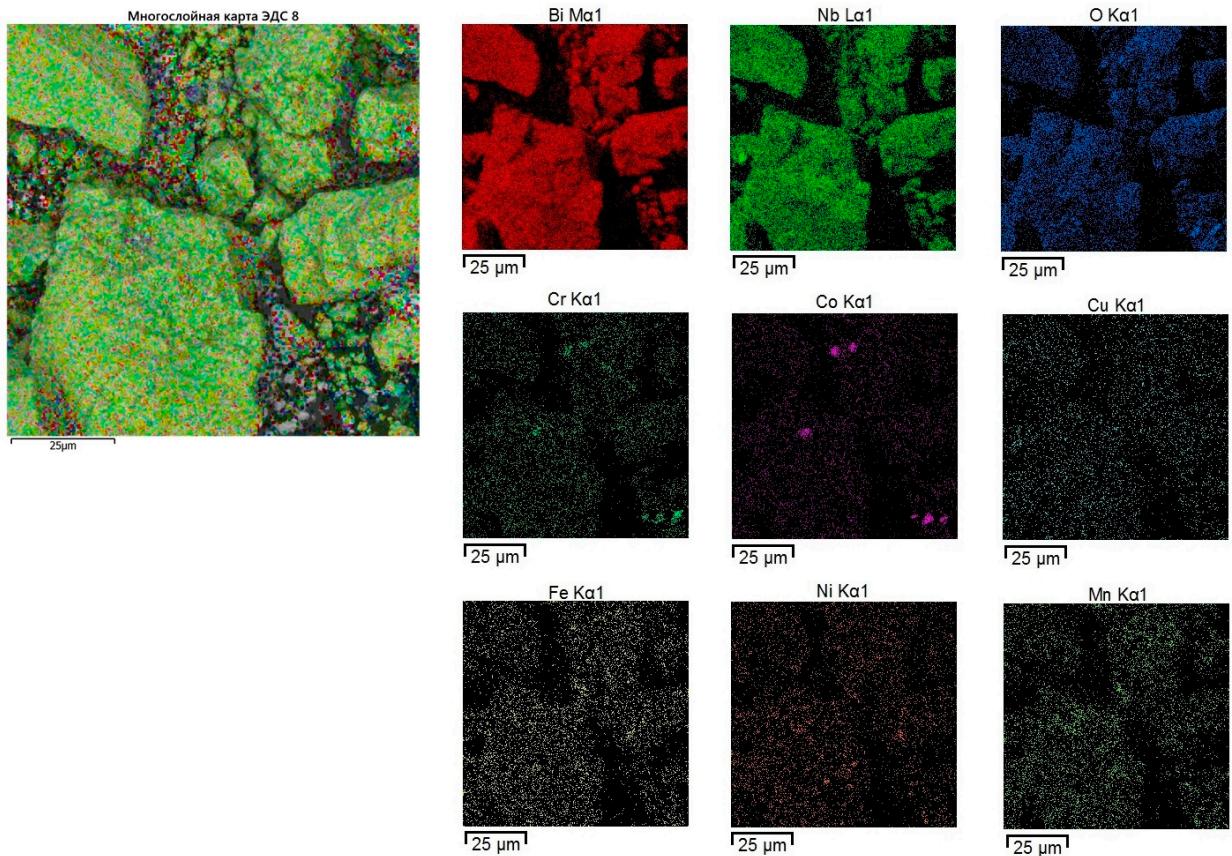
<sup>4</sup>Institute of Physics and Mathematics of the Komi Science Center UB RAS, Oplesnina st. 4, Syktyvkar, Republic of Komi, 167982, Russia



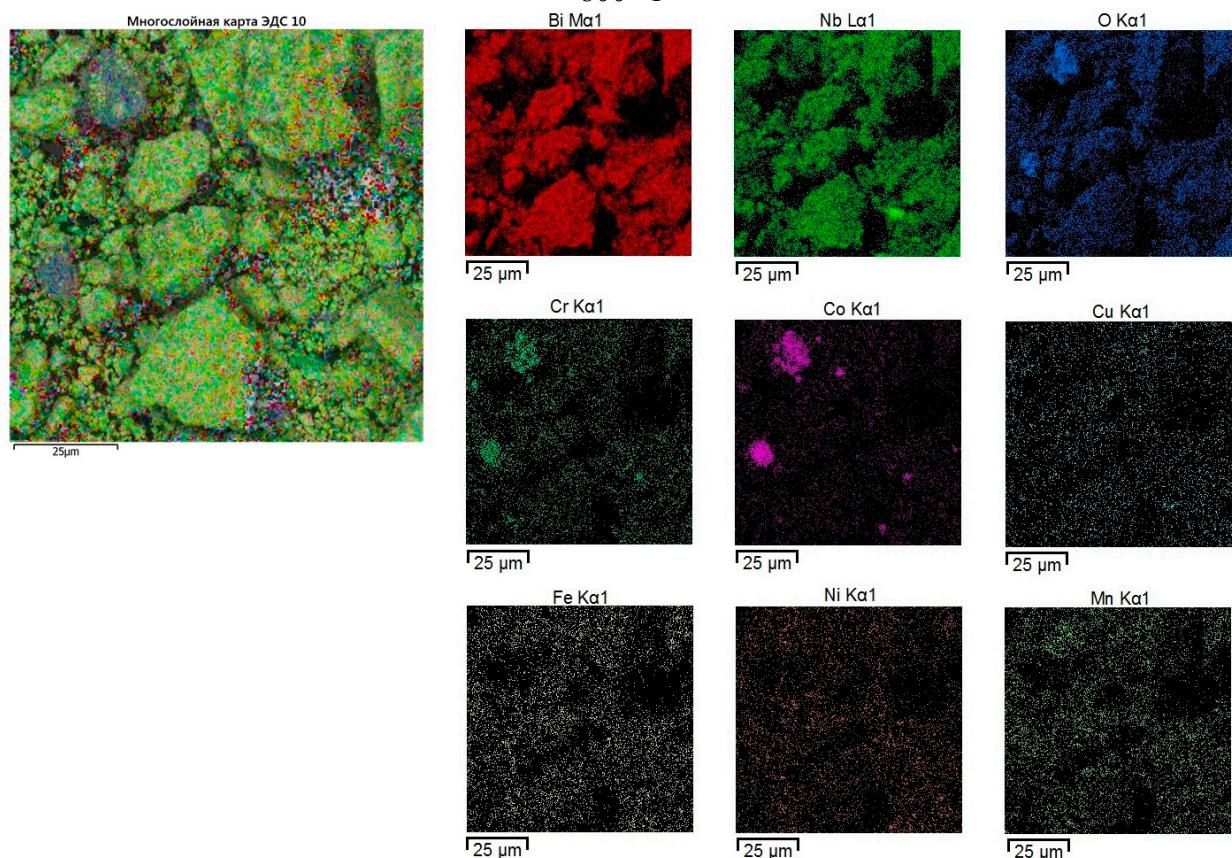
**Fig. S1** Microphotograph and EDS analysis of the  $\text{Bi}_2\text{Cr}_{1/6}\text{Mn}_{1/6}\text{Fe}_{1/6}\text{Co}_{1/6}\text{Ni}_{1/6}\text{Cu}_{1/6}\text{Nb}_2\text{O}_{9+\Delta}$  sample, calcined at 1050 °C.



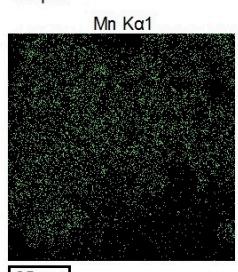
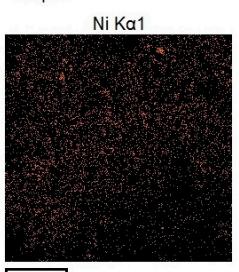
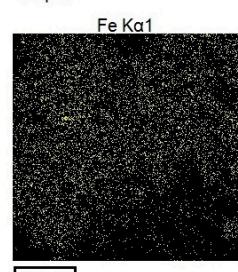
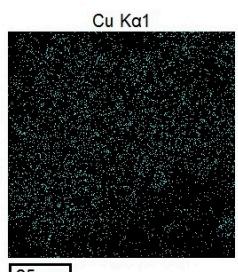
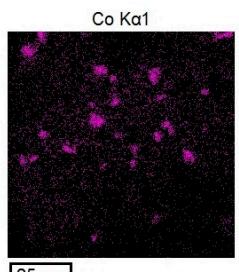
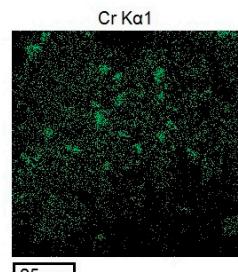
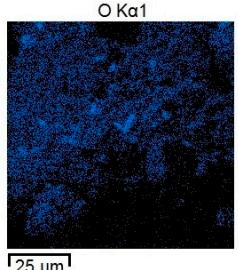
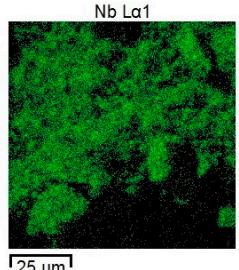
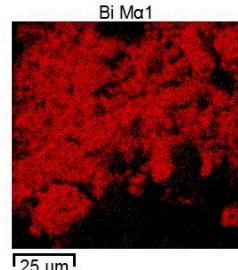
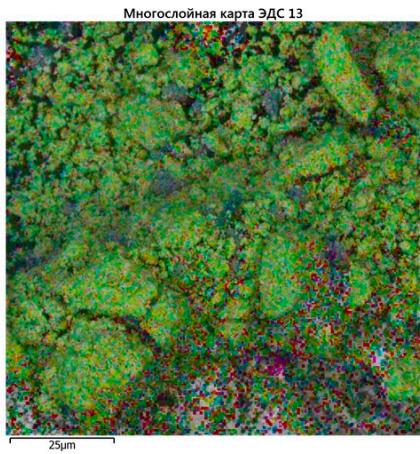
750 °C



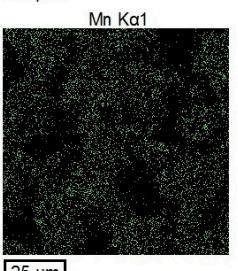
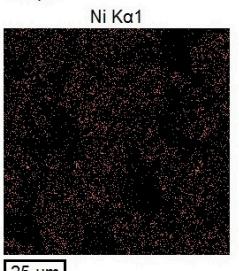
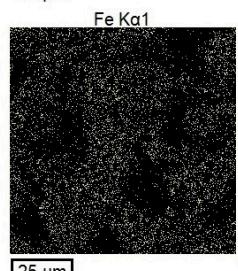
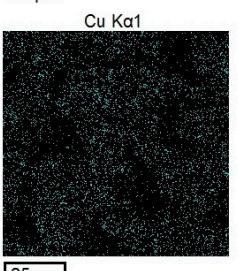
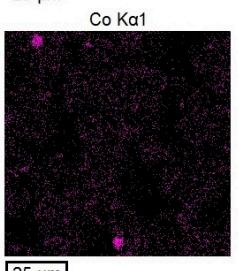
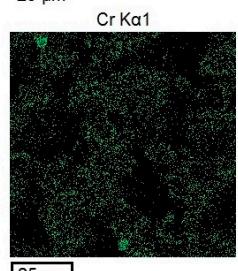
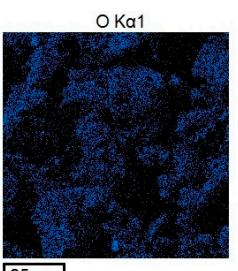
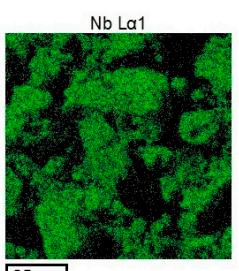
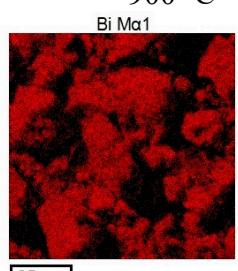
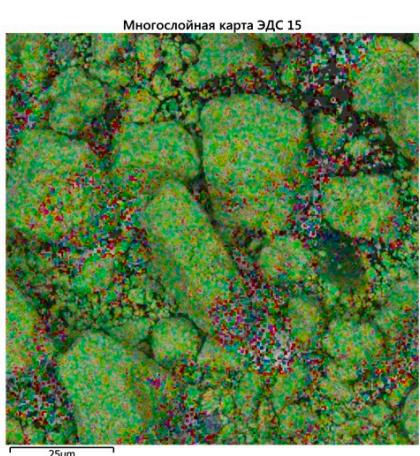
800 °C



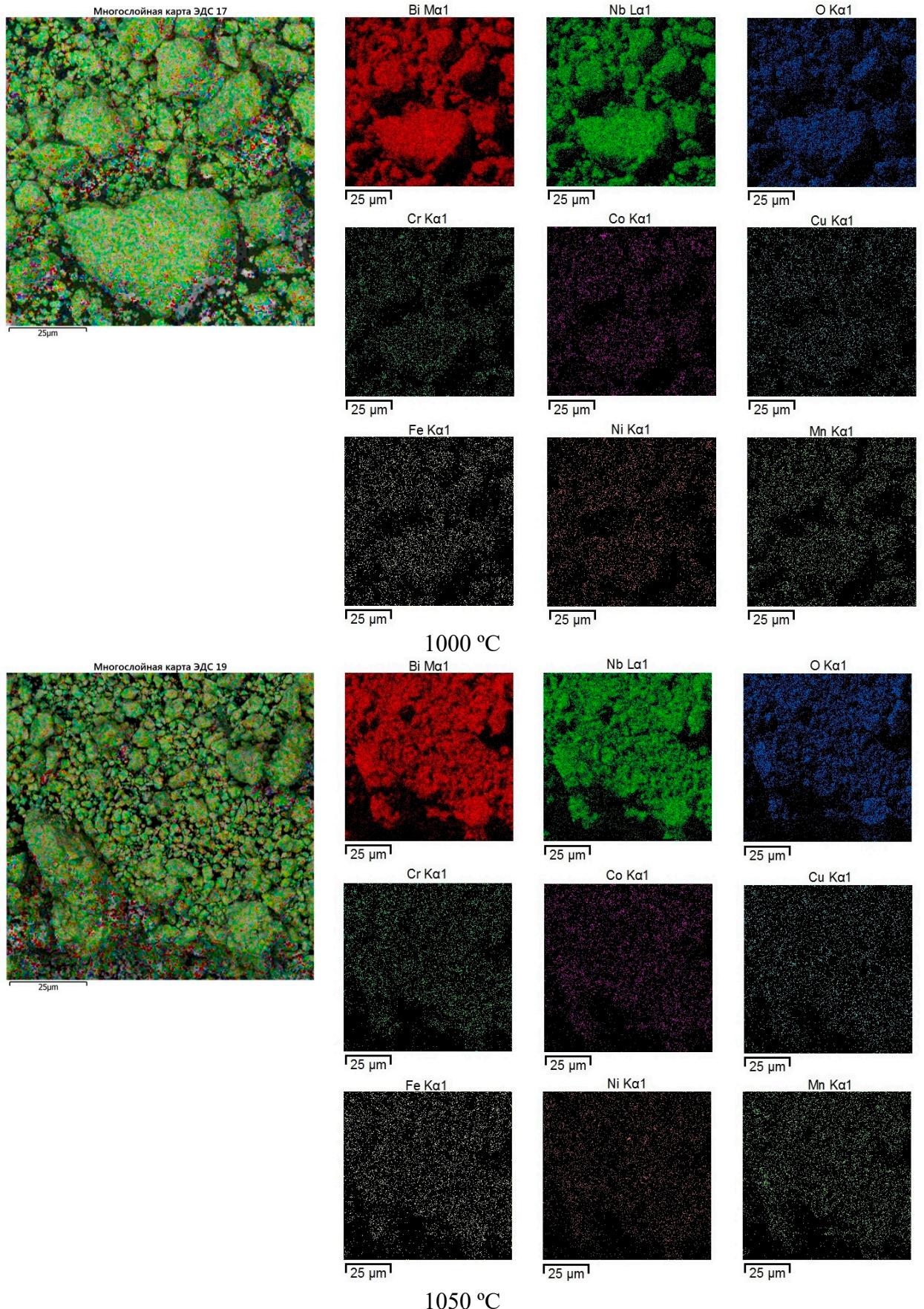
850 °C

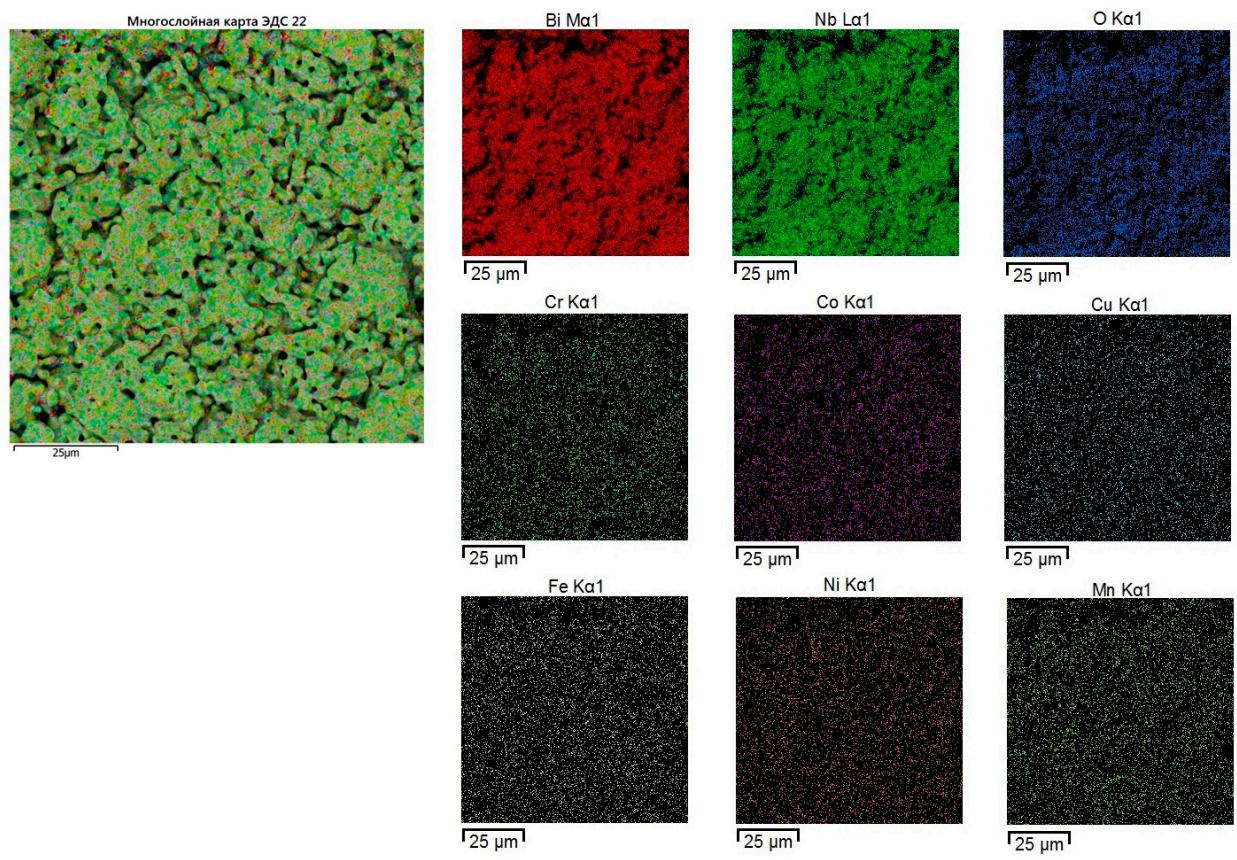


900 °C

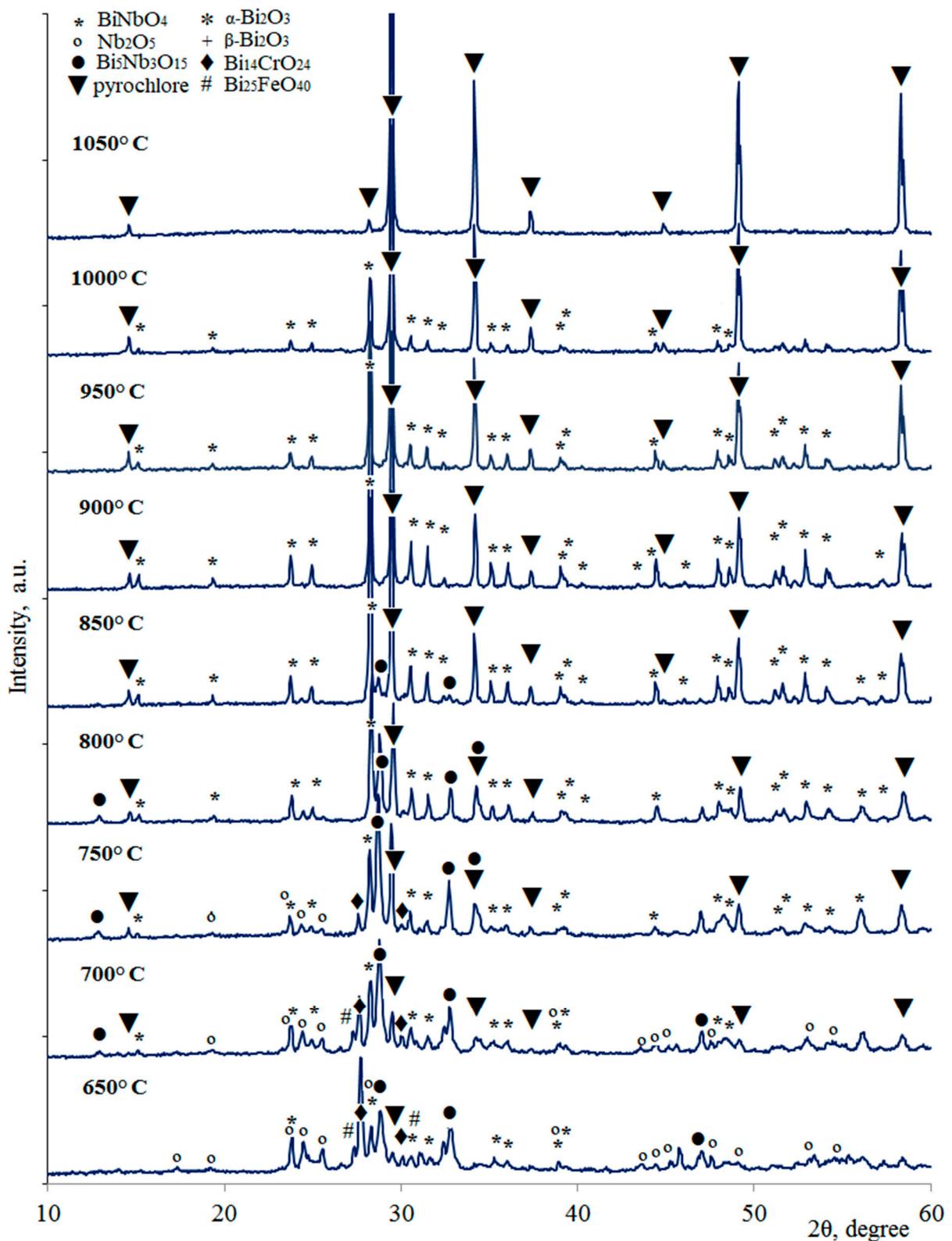


950 °C





**Fig.S2** EDS elemental mapping of the  $\text{Bi}_2\text{Cr}_{1/6}\text{Mn}_{1/6}\text{Fe}_{1/6}\text{Co}_{1/6}\text{Ni}_{1/6}\text{Cu}_{1/6}\text{Nb}_2\text{O}_{9+\Delta}$  samples, synthesized at temperatures from 650 to 1050 °C



**Fig. S3** X-ray powder diffraction patterns of the  $\text{Bi}_2\text{Cr}_{1/6}\text{Mn}_{1/6}\text{Fe}_{1/6}\text{Co}_{1/6}\text{Ni}_{1/6}\text{Cu}_{1/6}\text{Nb}_2\text{O}_{9+\Delta}$  sample, calcined from 650 to 1050 °C (15 h).