

Supporting information

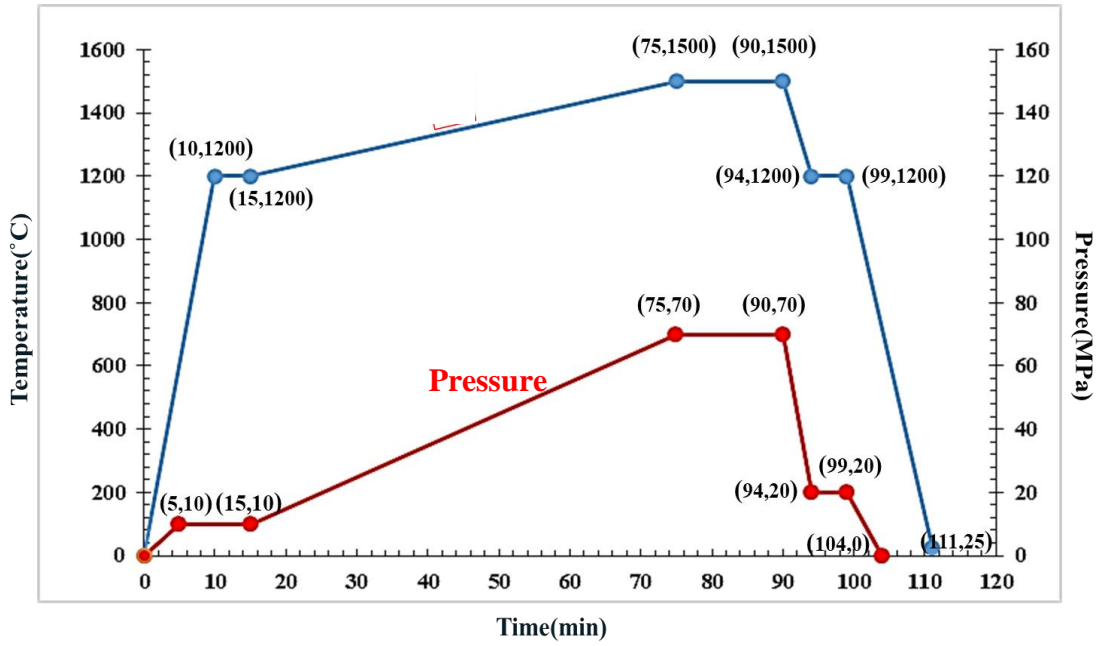


Fig. S1. The utilized SPS cycle (Heidari et al., 2022). The red curve is the pressure cycle, and the blue curve is the temperature cycle.

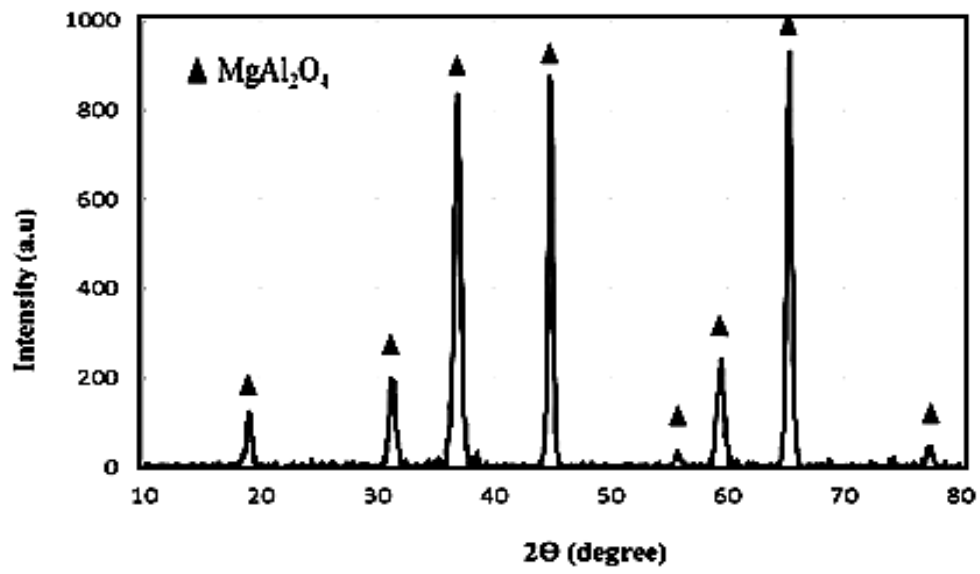


Fig. S2. XRD pattern of the sample synthesized via the conventional Pechini method

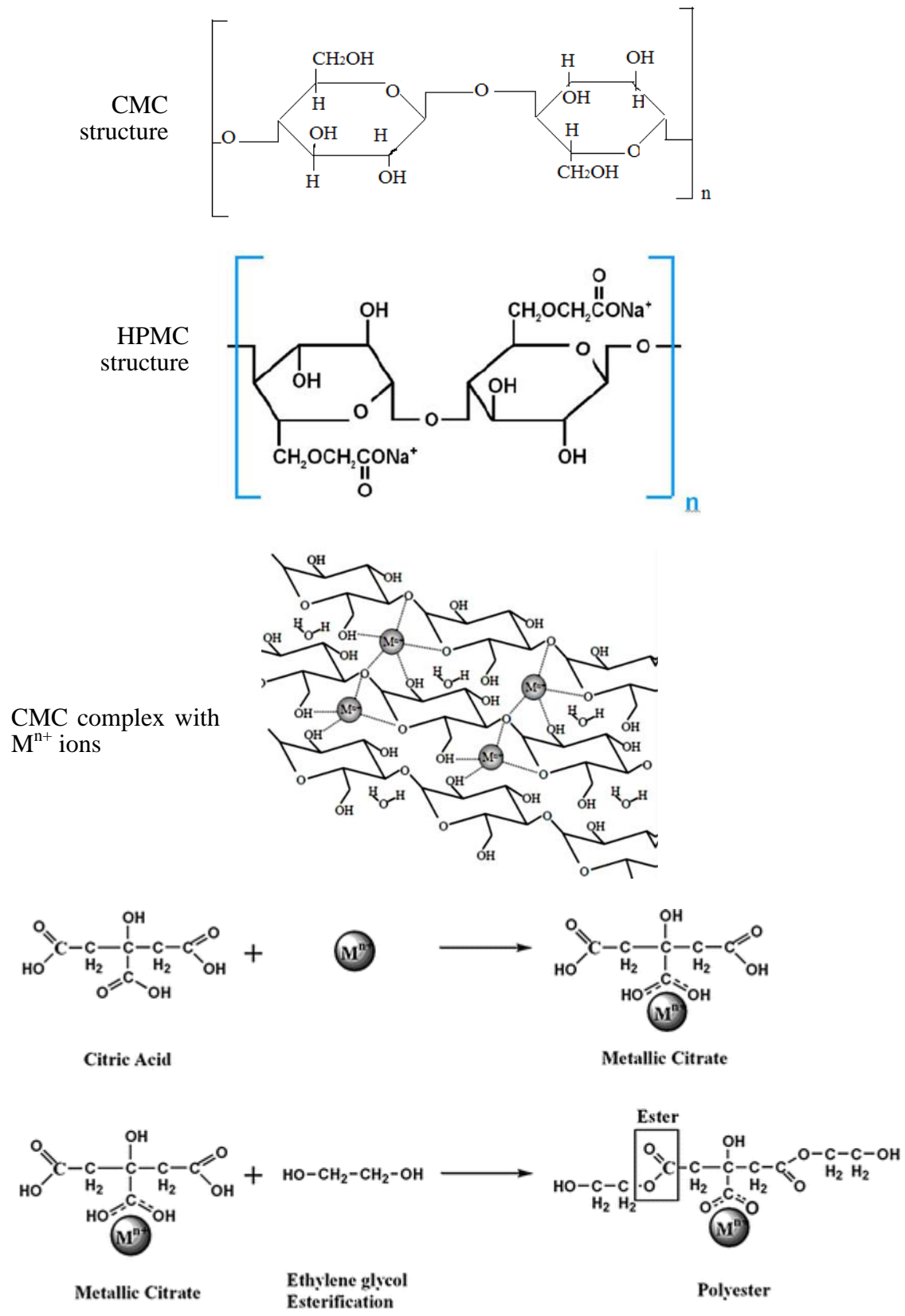


Fig. S3. A schematic of the polyester gel formation and its binding to the metal in the Pechini method (Dimesso et al., 2016), along with HPMC and CMC molecular structure.

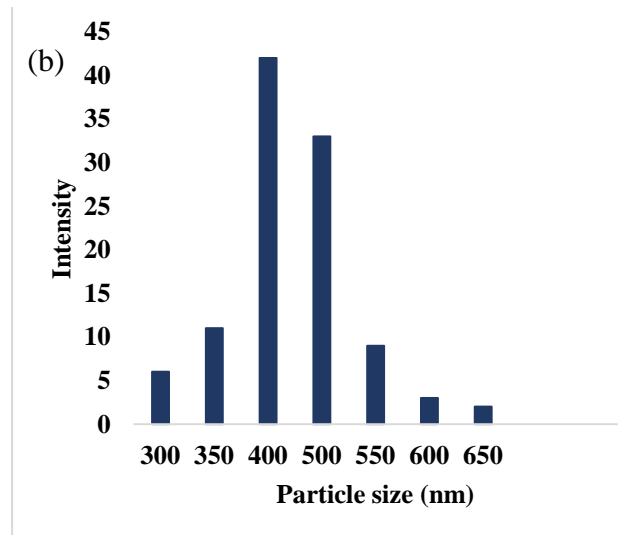
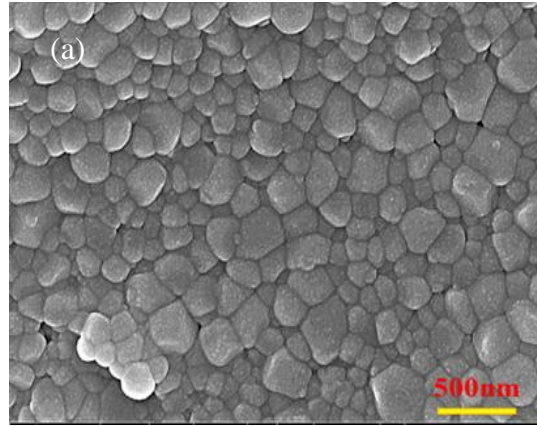


Fig. S4. (a) FESEM images (Heidari, 2021) and (b) Particle size distribution of the sample synthesized via conventional Pechini (CA-EG pair) method.

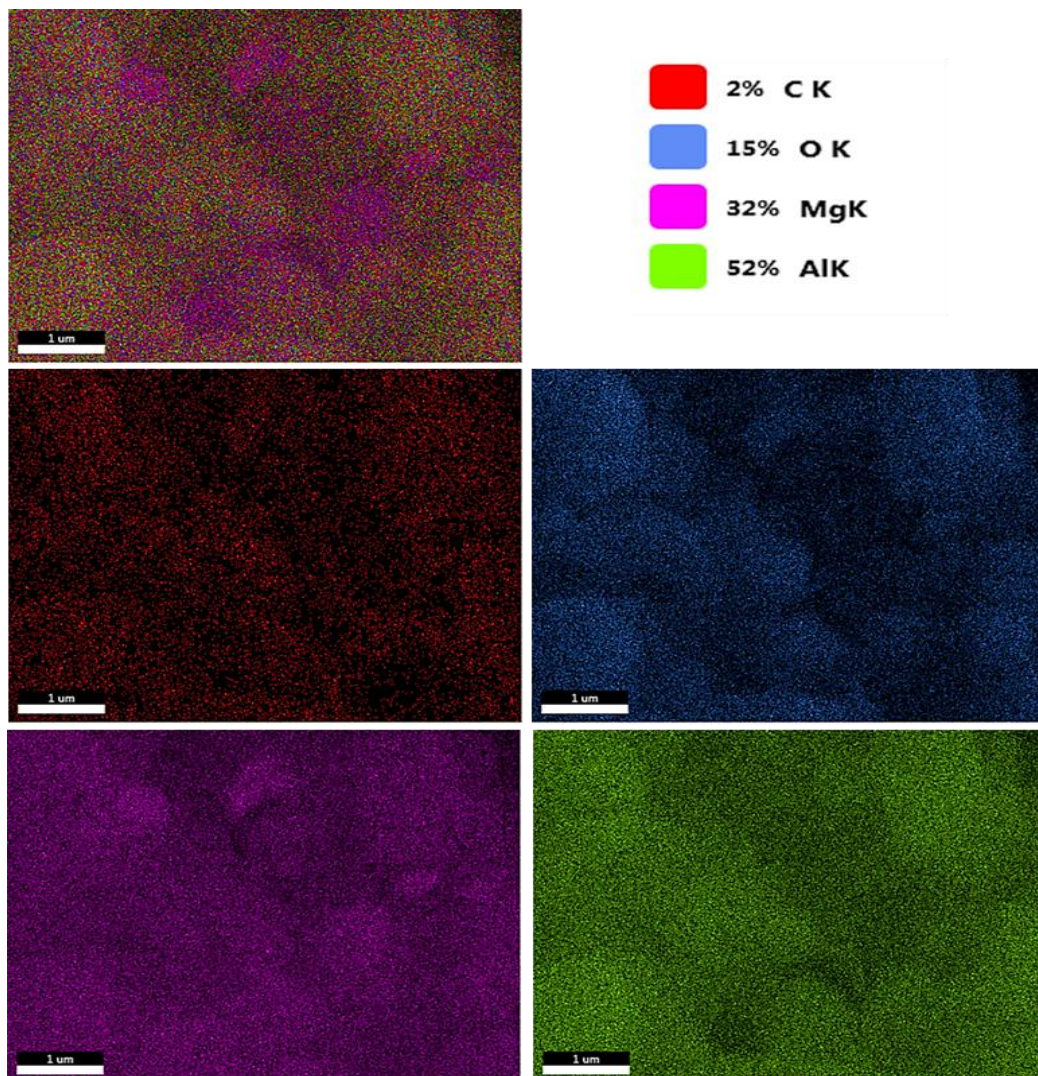


Fig. S5. The EDS mapping (Heidari, 2021) of the samples was synthesized through the conventional Pechini method.

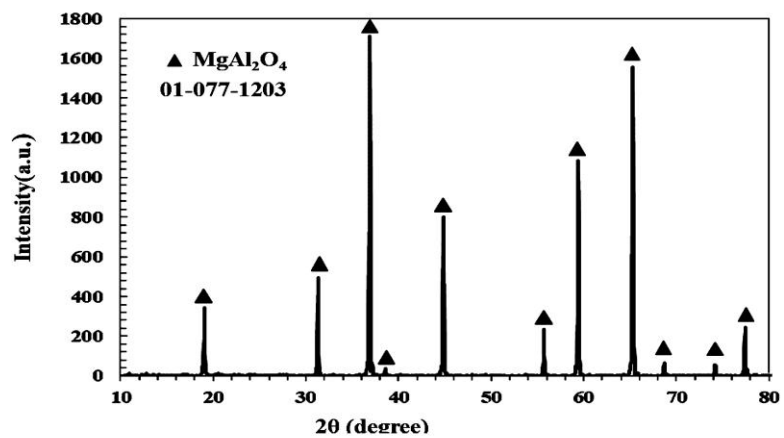


Fig. S6. XRD pattern of the bulk disc resulting from the modified Pechini method.

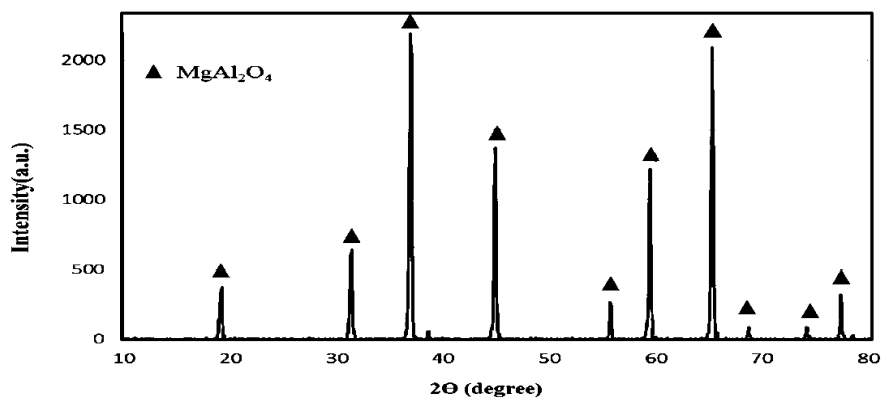


Fig. S7. XRD pattern of the SPSed sample resulting from the conventional Pechini method.

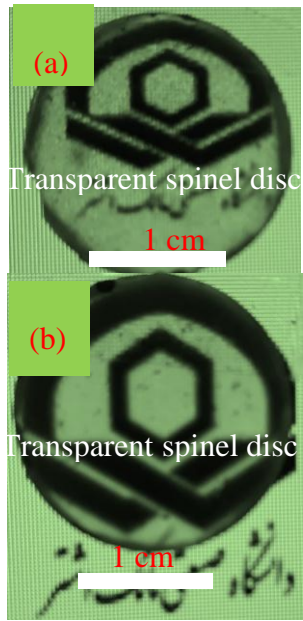


Fig. S8. Actual image of the disc sintered through the SPS method at 1500 °C sintered from the sample prepared with (a) conventional (b) modified Pechini method.