SUPPLEMENTARY MATERIALS

The first characterization of cubic Nd^{3+}-doped mixed La_2MoWO_9 in micro-crystalline powders and translucent micro-ceramics

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S1. 3.2.2. Sinterability and microstructure of Nd^{3+}-doped La_2MoWO_9 ceramic material

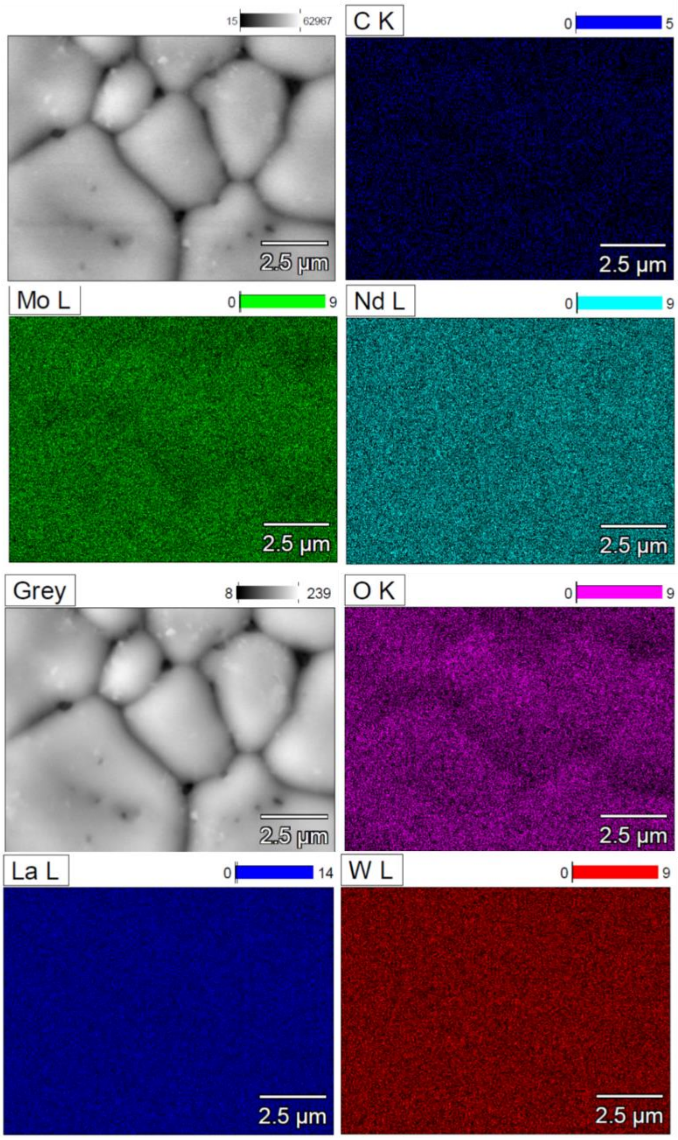
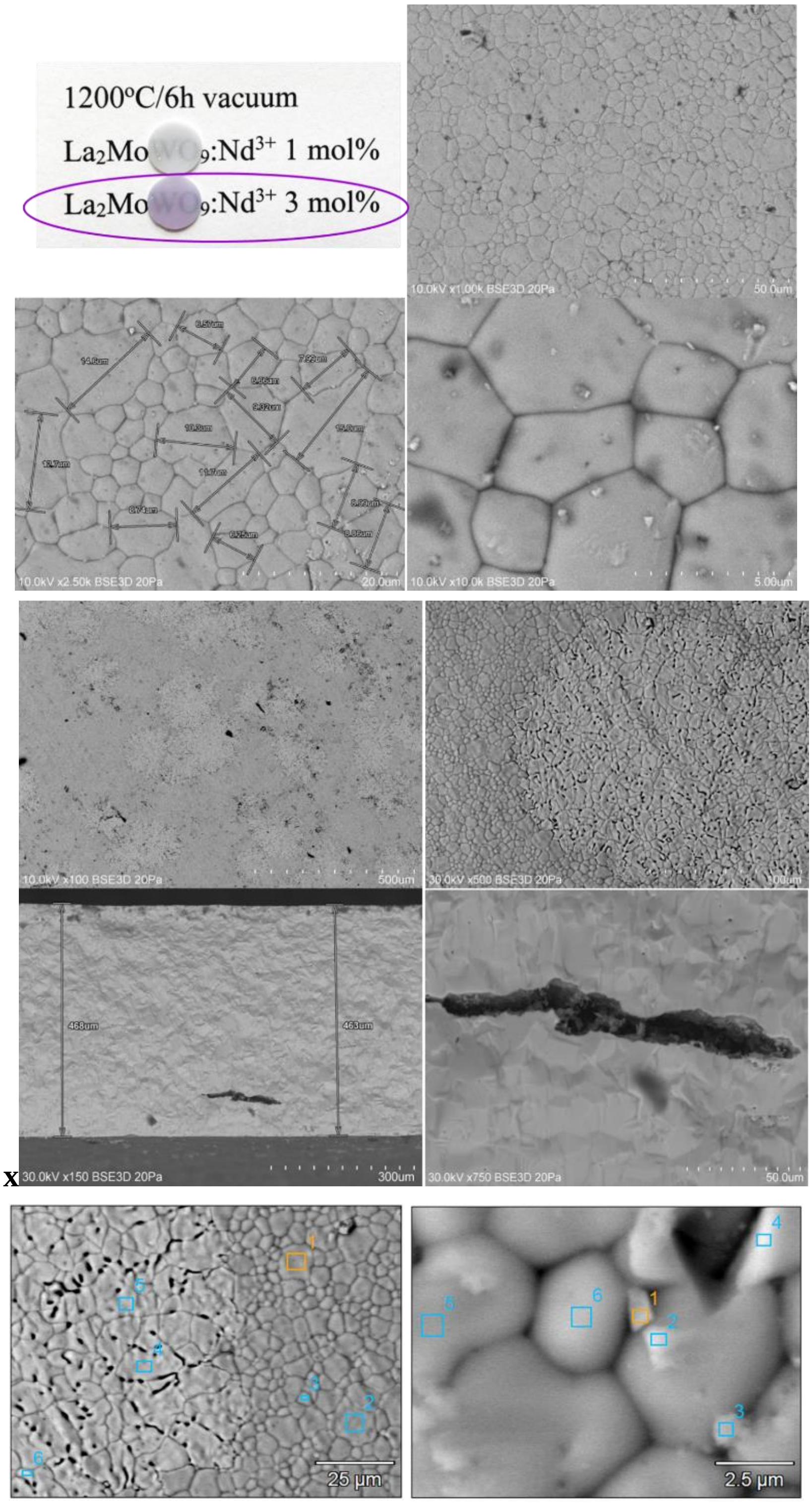


Figure S1 Elemental mapping images of 1% Nd^{3+}-doped La_2MoWO_9 translucent micro-ceramics.



Elements contents in at. %	Nd	La	Mo	W	O
expected	0.46	14.92	7.7	7.7	69.2
position 1	0.33	10.95	7.66	6.82	74.24
position 2	0.25	11.01	7.51	6.72	74.51
position 3	0.22	10.76	7.64	7.79	74.59
position 4	0.41	16.39	2.95	9.71	70.53
position 5	0.49	16.03	2.99	9.75	70.74
position 6	0.43	13.40	3.02	8.09	75.06

Elements contents in at. %	Nd	La	Mo	W	O
expected	0.46	14.92	7.7	7.7	69.2
position 1	0.14	9.97	7.29	6.57	76.01
position 2	0.17	9.31	6.93	6.13	77.46
position 3	0.16	10.20	7.37	6.85	75.42
position 4	0.20	10.68	7.55	7.04	74.53
position 5	0.30	10.93	7.66	6.97	74.13
position 6	0.33	10.76	7.71	7.03	74.16

Figure S2 SEM micrographs of 3% Nd^{3+}-doped La_2MoWO_9 polycrystalline micro-ceramics presented also cross-section and elemental analysis (with EDS). The table collects the contents (in atom %) of Nd, La, Mo, W, and O elements on area marked with squares in the images.

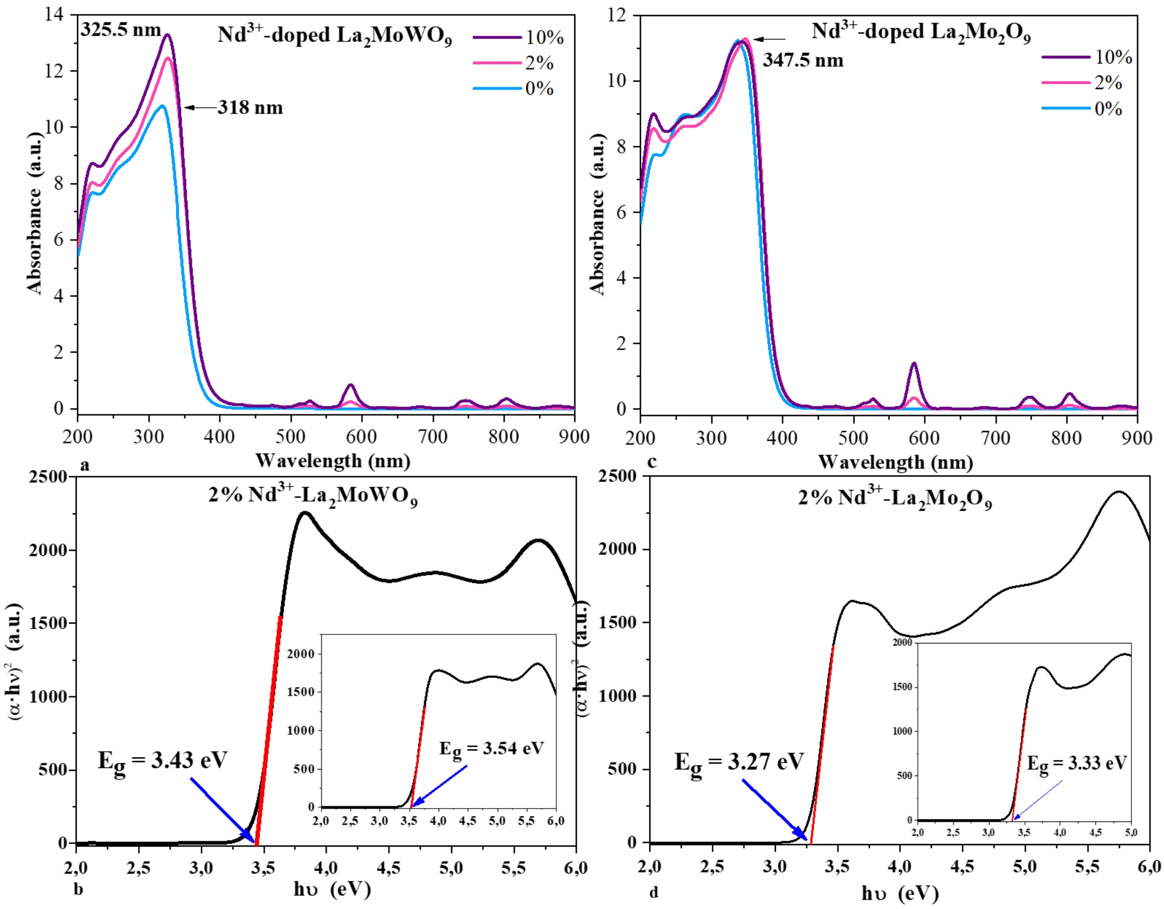


Figure S3 UV-vis absorption spectra of Nd^{3+}-doped La_2MoWO_9 (a) and Nd^{3+}-doped $La_2Mo_2O_9$ (c) with different concentration of activator as well as plots of $(\alpha \cdot h\nu)^2$ vs the energy of the incident photon hν for 2 mol % Nd^{3+}-doped La_2MoWO_9 (b) and 2 mol % Nd^{3+}-doped $La_2Mo_2O_9$ (d). The insert presents pure matrix of La_2MoWO_9 and $La_2Mo_2O_9$.

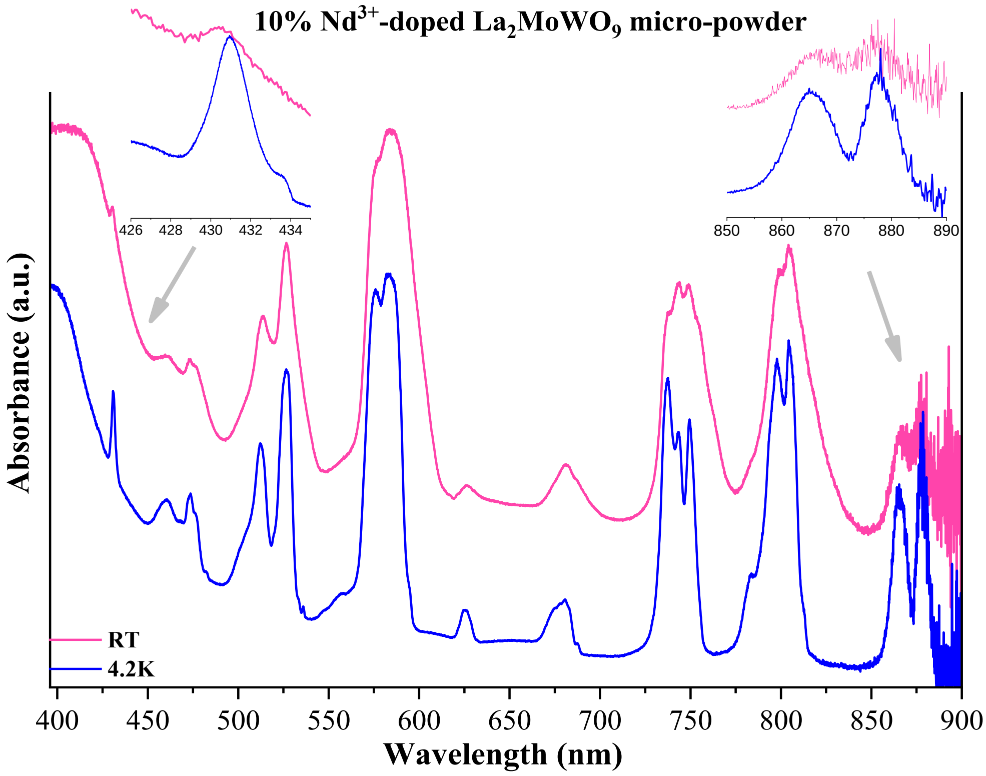


Figure S4 Absorption spectra of 10% of Nd^{3+}-doped La_2MoWO_9 recorded at room temperature and 4.2 K. Inserts present the $^4I_{9/2}\rightarrow{}^2P_{1/2}$ and $^4I_{9/2}\rightarrow{}^4F_{3/2}$ transitions.

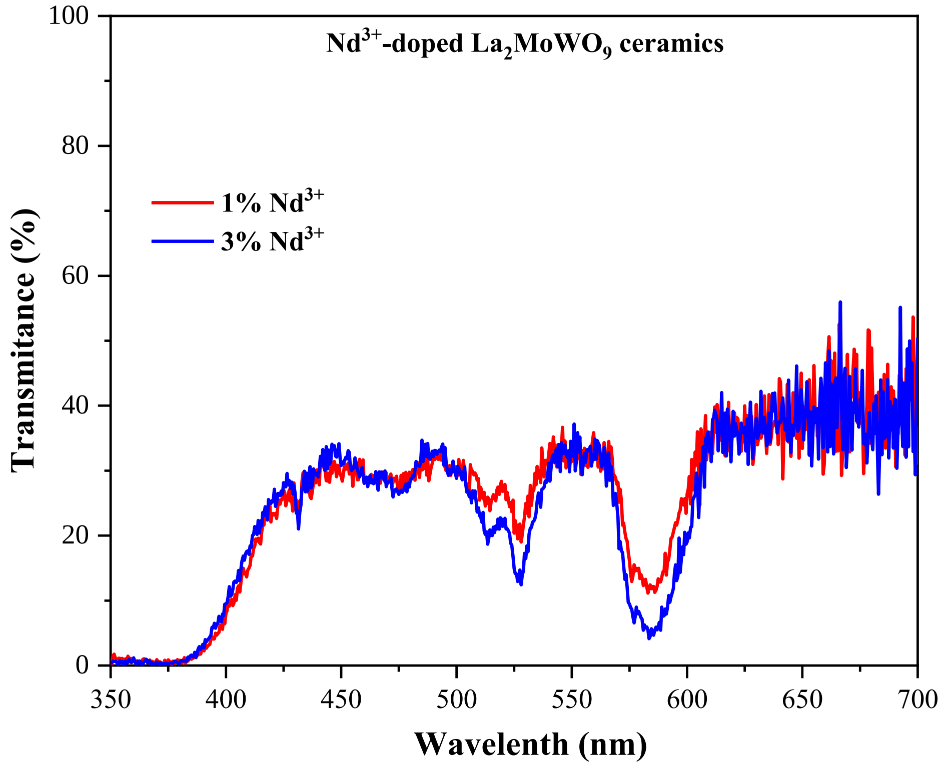


Figure S5 Total Forward Transmission (TFT) recorded for Nd^{3+}-doped La_2MoWO_9 (1% red, 3% blue) micro-crystalline ceramics.

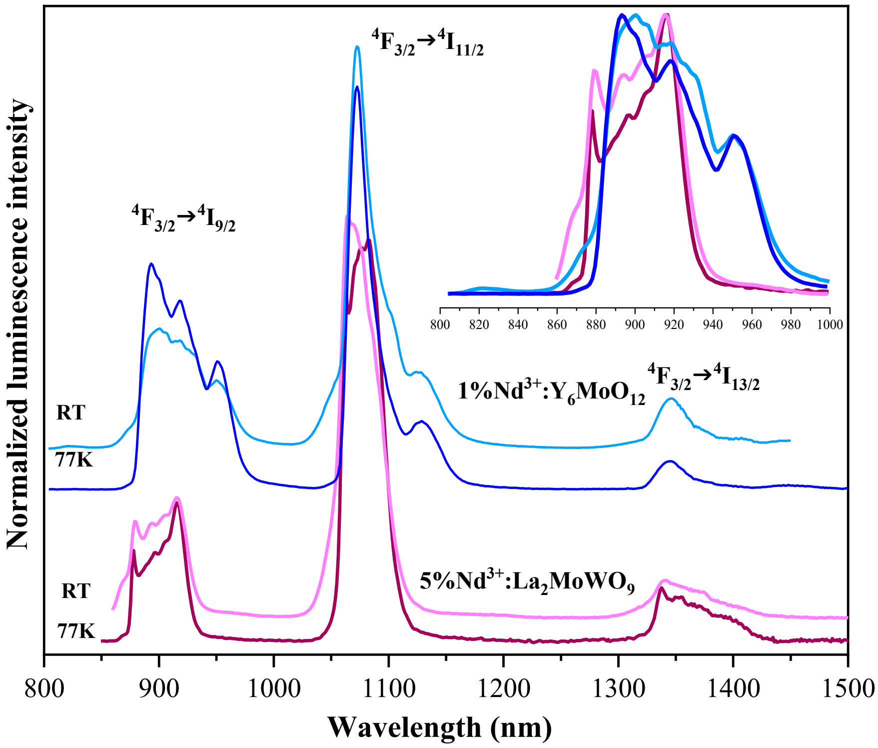


Figure S6 RT and 77K emission spectra of 1% Nd^{3+}-doped Y_6MoWO_{12} (blue) and 5% Nd^{3+}-doped La_2MoWO_9 (pink) micro-crystalline powders.