

## Supporting information

### CO<sub>2</sub>-stable reduction-tolerant Nd-containing dual phase membrane for oxyfuel CO<sub>2</sub> capture

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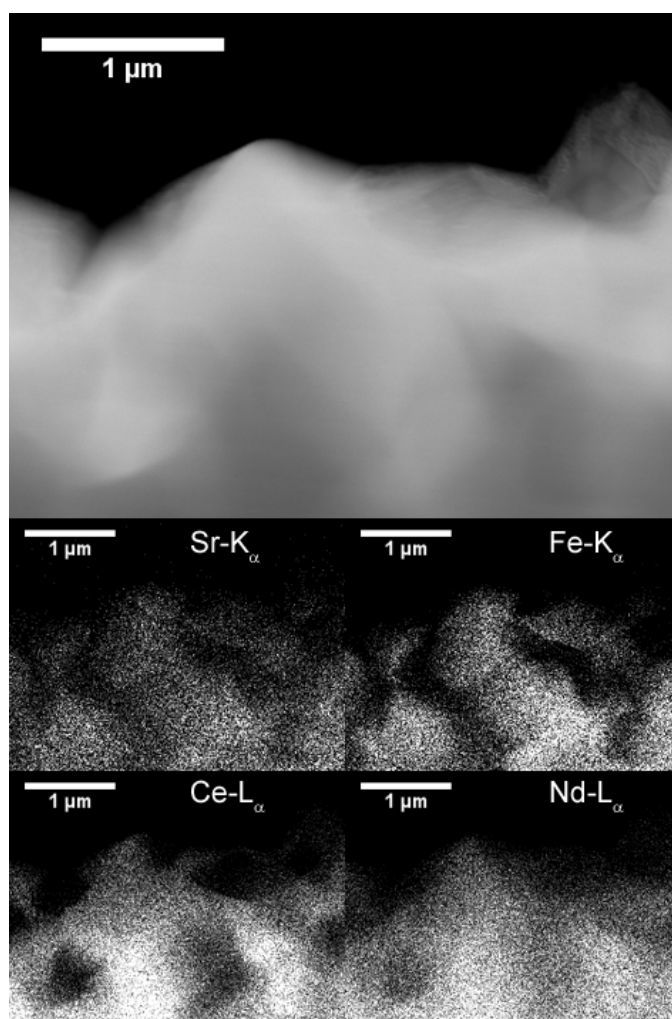
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**Table 1S.** Lattice parameters of NSFO and CNO as pure phases and in the 40NSFO - 60CNO dual phase powder calcined at 950 °C for 10 h and the 40NSFO - 60CNO dual phase membrane sintered at 1400 °C for 5 h.

Materials	Orthorhombic phase			Cubic phase	
	(space group 74, Imma)			(space group 225, Fm3m)	
	a(Å)	b(Å)	c(Å)	a(Å)	Lattice volume(Å <sup>3</sup> )
Pure NSFO powder	5.4788	7.7442	5.4983	-	
Pure CNO powder	-	-	-	5.4309	160.18
40NSFO-60CNO mixture powder	5.4869	7.7571	5.4979	5.4378	160.79
40NSFO-60CNO membrane	5.4902	7.7616	5.4977	5.4361	160.64



**Figure 1S.** STEM (top) and EDXS (bottom) images of the 40NSFO-60CNO membrane after sintered at 1400 °C for 5 h in air before polishing.