## Layered double hydroxide / polyphosphazenes-based ionomer hybrid membranes with electric field-aligned domains for hydroxide transport

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Fig. S1 – Experimental setup for electro-casting process, the top electrode was made from stainless steel mesh to allow solvent vapor to escape.



Fig. S2 – XRD pattern of the MgAl-LDH powdered sample.



Fig. S3 – FTIR spectrum of the MgAl-LDH powdered sample.





Fig. S5 – Stability of ionic conductivity of membranes after having been immersed in 1 molL<sup>-1</sup> NaOH solution at 60  $^\circ\mathrm{C}.$