Influence of proton conducting cations on the structure and properties of 2D anilate-based magnets

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Contents

Figure S1. Projection in the *ab* plane of two neighboring layers of 1 (top), 2 (middle) and 3 (bottom).

Figure S2 (a) Powder X ray diffraction pattern (blue) and simulated one (red) for crystals of 1; (b) Comparison between simulated powder diffraction data (red) and powder diffraction pattern (blue) obtained by quick precipitation for 1; (c) Simulated (red) and observed (blue) powder diffraction patterns for 2; and (d)) Simulated (red) and observed (blue) powder diffraction patterns for 3.

Figure S3. Projection in the *ab* plane of two neighboring layers of 4 belonging to the same bilayer.

Figure S4. Projection in the *bc* plane of the compound [(Et)(i-Pr)₂NH][Mn^{II}Cr^{III}(Br₂An)₃]·(CHCl₃)_{0.5}·(H₂O) (4) showing Br····Br intermolecular interactions (red dashed lines). (Cr (green), Mn (pink) C (black), N (blue), O (red), Cl (yellow) Br (brown)). Solvent molecules and [(Et)(i-Pr)₂NH]⁺ cations have been omitted for clarity.

Figure S5. Projection in the *ab* plane with $[(Et)(i-Pr)_2NH]^+$ cations and disordered solvent molecules (CHCl₃ and H₂O) in the interlayer space of **4**.

Figure S6. (a) Powder X ray diffraction patterns of a polycristalline sample of 4 immediately after filtering (blue), several days after filtering (green), after several days in contact with a CHCl₃/MeOH mixture (black) and simulated pattern from single crystal measured at 120 K (red). (b) Powder X ray diffraction pattern of a powder of 4 obtained by mixing quickly the precursors in methanol (red) and of dry crystals of 4 after proton conduction measurements at 70° C with 95 % RH (blue).

Figure S7. Temperature dependence of the in-phase AC susceptibility (χ') (filled symbols) and the out-of-phase AC susceptibility (χ'') of crystals of 4 measured in contact with the mother liquor.

Figure S8. Temperature dependence of the product of the molar magnetic susceptibility times the temperature ($\chi_M T$) of filtered crystals of 4.

Figure S9. Temperature dependence of the in-phase AC susceptibility (χ') (filled symbols) and the out-of-phase AC susceptibility (χ'') of filtered crystals of 4.

Figure S10. Hysteresis measurements of filtered crystals 4 at 2 K.

Figure S11. Temperature dependence of the in-phase AC susceptibility (χ ') (filled symbols) and the out-of-phase AC susceptibility (χ '') at 110 Hz of crystals of 4 in contact with the mother liquor (circles), filtered (squares) and reimmersed in a MeOH/CHCl₃ solvent mixture (triangles).

Figure S12. TGA of 1.

Figure S13. As synthesized (blue) and after impedance measurement (red) PXRD patterns for: 1 (a), 2 (b), 3 (c) and 4 (d).

Figure S14. Complex impedance plane plot for 1 (a), 2 (b), 3 (c) and 4 (d) at 95% RH and six temperatures: 343 K (black), 333 K (red), 323 K (green), 313 K (blue), 303 K (cyan) and 298 K (magenta).



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Figure S2. (a) Powder X ray diffraction pattern (blue) and simulated one (red) for crystals of 1; (b) Comparison between simulated powder diffraction data (red) from single crystal and powder pattern (blue) obtained by quick precipitation for 1; (c) Simulated (red) and observed (blue) powder diffraction pattern for 2; and (d) Simulated (red) and observed (blue) powder diffraction pattern for 3.



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(a)



(b)

Figure S6. (a) Powder X ray diffraction pattern of a powdered sample of crystals of **4** immediately after filtering (blue), several days after filtering (green) and after several days in contact with a CHCl₃/MeOH mixture (black) and simulated pattern obtained from the single crystal X-ray diffraction structure solved at 120 K (red). (b) Powder X ray diffraction pattern of a powder of **4** obtained by mixing quickly the precursors in methanol (red) and of dry crystals of **4** after proton conduction measurements at 80° C with 95 % RH (blue).



Figure S7. Temperature dependence of the in-phase AC susceptibility (χ ') (filled symbols) and the outof-phase AC susceptibility (χ '') of crystals of 4 measured in contact with the mother liquor.



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