Supplementary Materials for

Multinuclear NMR as a tool for studying local order and dynamics in $CH_3NH_3PbX_3$ (X = Cl, Br, I) hybrid perovskites

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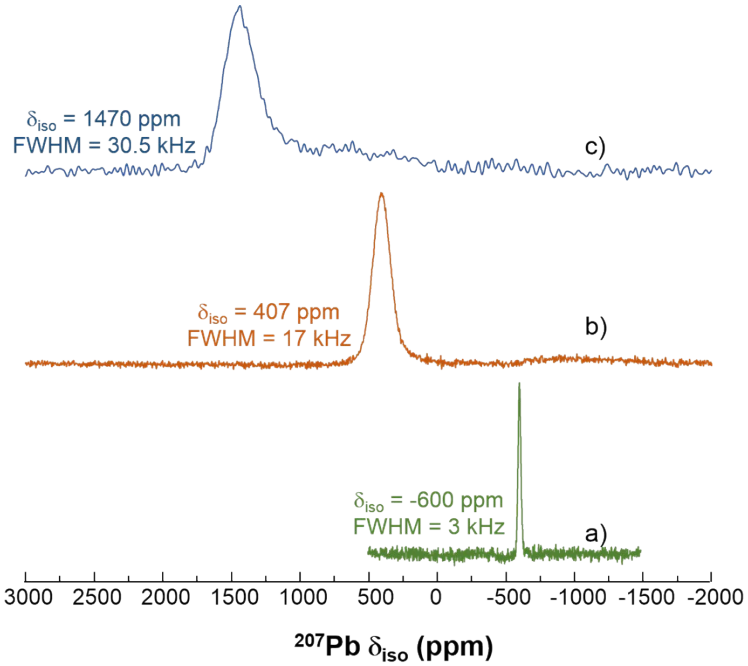

Figure S1. ^{207}Pb MAS NMR spectra obtained at 14T on $MAPbX_3$, with X=Cl (a), X=Br (b) and X=I (c). The MAS frequency is set to 22 kHz. These experiments were performed using a simple pulse, which affects the baseline. We cannot avoid those baseline distortions as a Hahn echo (which is a rotor synchronized pulse sequence) could not be implemented as a result of unfavorable T_2 (Table 1).

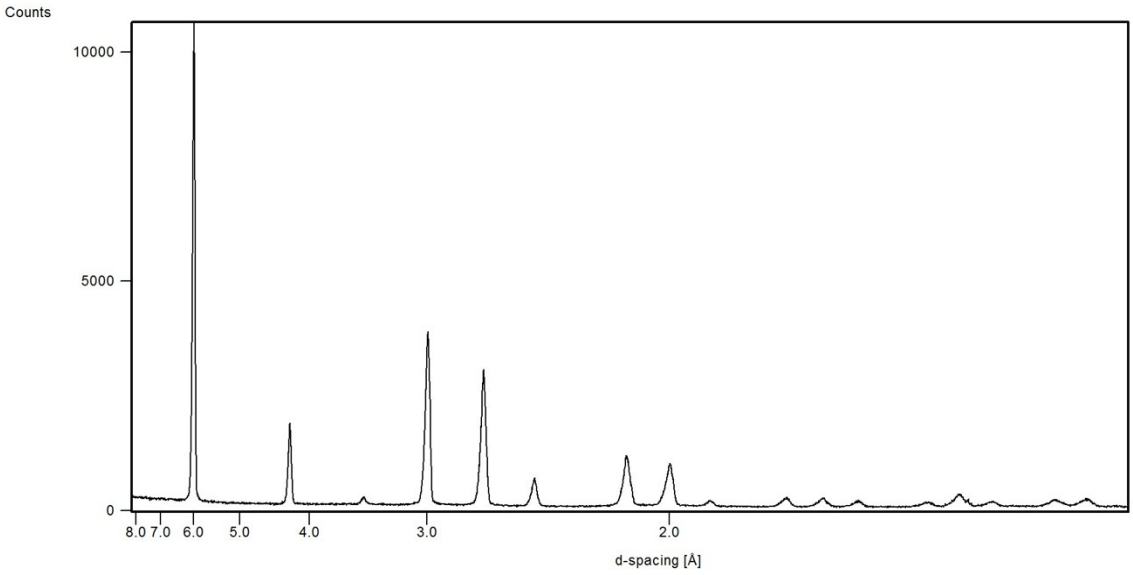

Figure S2. X-ray powder diffraction pattern of $MAPbBr_2I$ collected at 295 K. The 17 first peaks were used for indexing, by means of the DICVOL06 program (A. Boultif, D. Louër, J. Appl. Crystallogr., 2004, 37, 724-731).