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Electronic Supplementary Information

New Ultrafast Scintillators with Core Valence Luminescence: Cs_2MgCl_4 and Cs_3MgCl_5

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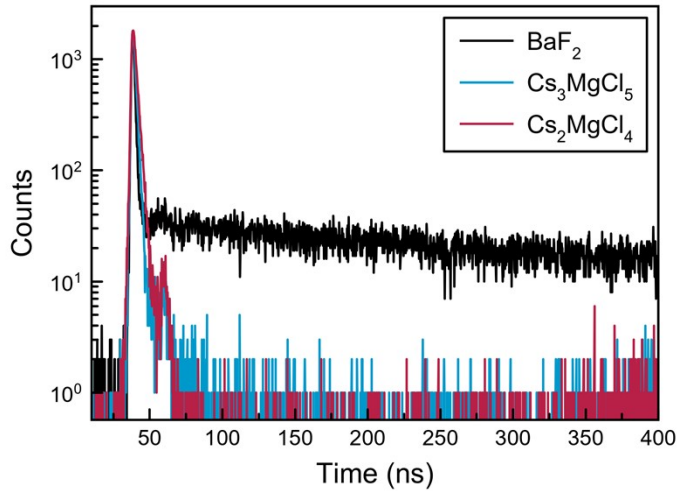

Figure S1. Scintillation decay time profiles measured over a longer time window.

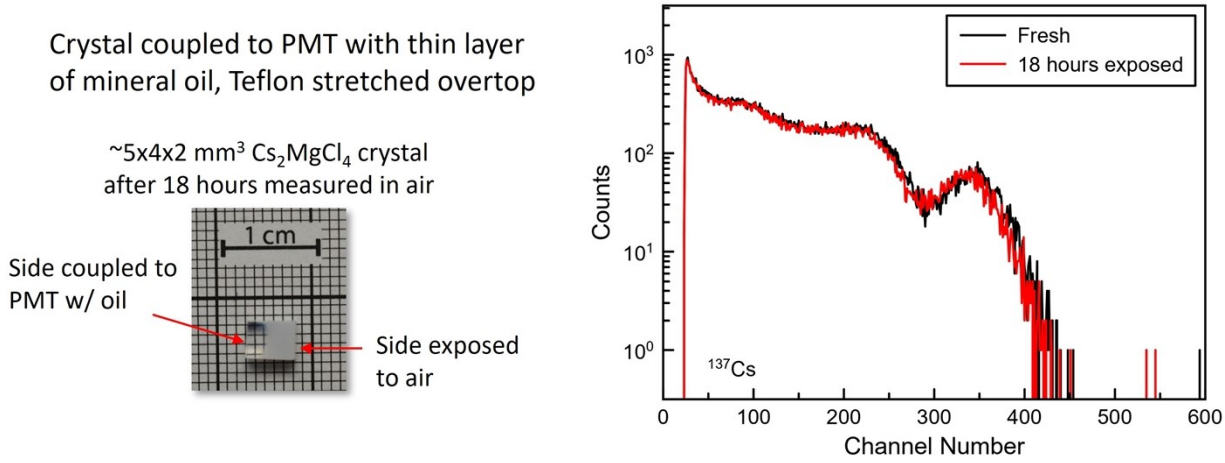

Figure S2. (left) Photograph of a Cs_2MgCl_4 sample used to test stability of light yield measurements in air. (right) Resulting pulse height spectra measured with the fresh sample versus after 18 hours of exposure.