Large Spontaneous Polarization and Clear Hysteresis Loop of a Room-Temperature Hybrid Ferroelectric Based on Mixed-Halide BiI3Cl2 Polar Chains and Methylviologen Dication

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Résumé en anglais	The search for hybrid organic inorganic materials, which have the great advantage that they can be synthesized at moderate temperature (T 200 degrees C), remains a great challenge in the field of ferroelectrics. Here, a room-temperature ferroelectric material with interesting characteristics, (MV)[BiI3Cl2] (MV2+ = methylviologen), is reported. Its structure is based on polar inorganic chains resulting from a remarkable Cl/I segregation induced by methylviologen entities, which coincide with the fourfold polar axis of the tetragonal structure. Of great importance is that this room-temperature hybrid ferroelectric displays a clear electrical hysteresis loop with a large spontaneous polarization (15 mu C.cm(-2)).
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Liens

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[2] http://okina.univ-angers.fr/nicolas.mercier/publications
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[8] http://dx.doi.org/10.1021/ja206171s