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Title:	Hybrid Lead Bromide Perovskite Single Crystals Coupled with a Zinc(II) Complex for White Light Emission
Authors:	Kumar, Vierandra (/jspui/browse?type=author&value=Kumar%2C+Vierandra) Choudhury, Angshuman Roy (/jspui/browse?type=author&value=Choudhury%2C+Angshuman+Roy)
Keywords:	Light Luminescence Crystal structure
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Citation:	Journal of Physical Chemistry Letters, 13(46), 10759-10766
Abstract:	Herein we report the fabrication of green emitting hybrid lead bromide perovskite single crystals (HLBPSCs), their anion exchange mediated tunable yellow luminescence and thereby their coupling ability with blue emitting inorganic complex leading to generation of a photostable white light emission, with properties close to bright day sunlight. The partial anion exchange reaction to green emitting HLBPSCs led to formation of yellow emitting anion exchanged HLBPSCs—which are termed as AE-HLBPSCs herein. Then, AE-HLBPSCs were chemically combined with blue emitting Zn-aspirin complex to produce white light with a photoluminescence quantum yield (PLQY) of 47.7%. The solid form of the white light emitting (WLE) composite (followed by coating with poly methyl methacrylate—PMMA) showed color coordinates of (0.34, 0.33), color rendering index of 76 and correlated color temperature of 5282 K. Furthermore, the PMMA coated inorganic complex coupled AE-HLBPSCs showed the preservation of their WLE nature and luminescence stability in their solid form.
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