Electronic Supplementary Material (ESI) for Inorganic Chemistry Frontiers.

Supporting Information

Preparation and properties of Eu^{2+}/Eu^{3+} Co-activated $Ca_9Lu(PO_4)_7$ phosphors for multichannel photoluminescence

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Fig.S1. The XRD patterns of as-prepared $Ca_9Lu(PO_4)_7$: *x*Eu (*x* = 0、0.01、0.02、0.04、0.06、0.08、0.1、 0.2) samples

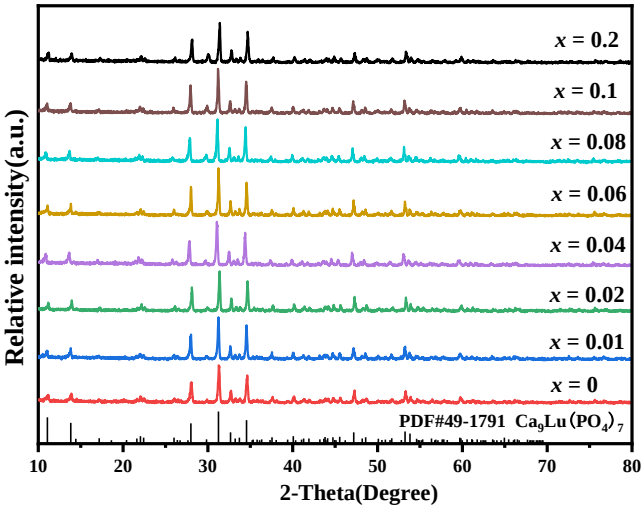

Fig.S2. The EDS images of $Ca_9Lu(PO_4)_7$:0.04Eu and the corresponding measurements with the element ratios of Ca, Lu, P, O and Eu

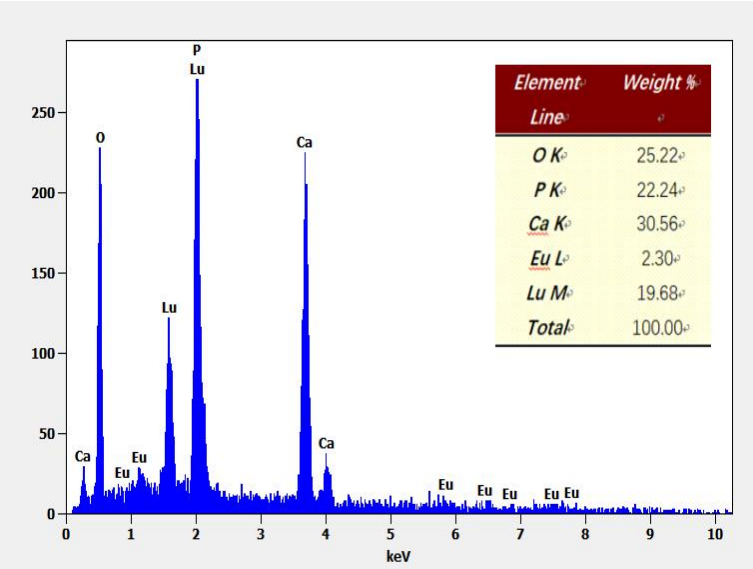

Table S1. CIE1931 color co-ordinates (x, y) for $Ca_9Lu(PO_4)_7$: *x*Eu(*x* = 0.01、0.02、0.04、0.06、0.08、0.1、0.2) phosphors under excitation of 251 nm、294 nm and 394 nm.

Sample no	λex(nm)	$Ca_9Lu(PO_4)_7$: *x*Eu	CIE(*x*,y)
A	294	0.01	(0.230,0.345)
B	294	0.02	(0.223,0.341)
C	294	0.04	(0.223,0.338)
D	294	0.06	(0.267,0.341)
E	294	0.08	(0.285,0.336)
F	294	0.1	(0.379,0.337)
G	294	0.2	(0.536,0.343)
a	251	0.01	(0.431,0.347)
b	251	0.2	(0.614,0.338)
1	394	0.01	(0.442,0.359)
2	394	0.2	(0.607,0.343)