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Electronic Supporting Information

Three-dimensional all-inorganic dual halogen emitter $Cs_2Cd_2BrCl_5$ exhibiting broadband white light emission

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Table S1. Atomic coordinates and equivalent isotropic displacement parameters for $Cs_2Cd_2BrCl_5$. $U_{(eq)}$ is defined as one third of the trace of the orthogonalized U_{ij} tensor.

atom	x	y	z	U_{eq} (Å^2)
Cd1	0.3333	0.6667	0.11709 (6)	0.0170 (3)
Br1	0.16959 (14)	0.3392 (3)	0.2500	0.0279 (5)
Cl1	0.16959 (14)	0.3392 (3)	0.2500	0.0279 (5)
Cl2	0.0000	0.5000	0.0000	0.0283 (6)
Cs1	0.6667	0.3333	0.2500	0.0303 (4)
Cs2	0.0000	0.0000	0.0000	0.0367 (4)

Table S2. Selected bond lengths (Å) and angles (deg) for $Cs_2Cd_2BrCl_5$.

Cd1—Cl2	2.6046 (4)	Cd1—Br1	2.6912 (15)
Cd1—Cl1^{ii}	2.6912 (15)	Cl2—Cs1^{viii}	3.7993 (1)
Cd1—Cl2^{ii}	2.6046 (4)	Cs1—Cl1^{ix}	3.7287
Cd1—Cl1^{iii}	2.6912 (15)	Cs1—Br1^{ix}	3.7287
Cd1—Br1^{iii}	2.6912 (15)	Cs1—Br1^{x}	3.7287
Cl2—Cd1—Cl2^{i}	91.41 (2)	Br1^{x}—Cs1—Br1^{xi}	120.0
Cl2—Cd1—Cl2^{ii}	91.41 (2)	Cl1^{xi}—Cs1—Br1^{xi}	0.0
Cl2^{ii}—Cd1—Cl1^{iii}	176.06 (4)	Br1^{x}—Cs1—Cl1^{xii}	58.84 (6)
Cl2—Cd1—Br1^{iii}	91.340 (17)	Cl1^{xi}—Cs1—Cl1^{xii}	178.84 (6)
Br1^{iii}—Cd1—Br1^{ii}	85.78 (4)	Cl2—Cd1—Cd1^{iii}	124.261 (14)
Cl1^{ii}—Cd1—Br1^{ii}	0.00 (5)	Cl2^{i}—Cd1—Cd1^{iii}	124.261 (14)
Cl2—Cd1—Br1	91.340 (17)	Cl2^{ii}—Cd1—Cd1^{iii}	124.260 (14)
Cl2^{i}—Cd1—Br1	176.06 (4)	Cl1^{iii}—Cd1—Cd1^{iii}	51.80 (3)
Cs2^{iv}—Cd1—Br1—Cs1	−177.611 (18)	Cs2^{vi}—Br1—Cs1—Cl1^{ii}	−124.98 (2)
Cs2—Cd1—Br1—Cs1	89.641 (18)	Cd1^{iii}—Br1—Cs1—Br1^{ii}	−38.20 (3)
Cl2—Cd1—Br1—Cs1^{v}	−43.92 (2)	Cd1—Br1—Cs1—Br1^{ii}	38.20 (3)
Cl1^{ii}—Cd1—Br1—Cs2^{vi}	43.033 (17)	Cd1—Cl2—Cs2—Cl2^{xvi}	0.0
Br1^{ii}—Cd1—Br1—Cs2^{vi}	43.033 (17)	Cd1^{vii}—Cl2—Cs2—Cl2^{xvi}	0.0
Cd1^{iii}—Cd1—Br1—Cs2^{vi}	0.0	Cs2^{iv}—Cl2—Cs2—Cl2^{xvi}	0.0
Br1^{ii}—Cd1—Cl2—Cd1^{vii}	106 (10)	Cd1—Cl2—Cs2—Cl1^{xvii}	−143.54 (2)
Br1—Cd1—Cl2—Cd1^{vii}	149 (10)	Cd1^{vii}—Cl2—Cs2—Cl1^{xvii}	36.46 (2)
Cl2^{i}—Cd1—Cl2—Cs1^{v}	−134.276 (11)	Cs1^{v}—Br1—Cs2—Cl2^{ii}	125.65 (3)

Symmetry codes: (i) −*x*+*y*, −*x*+1, *z*; (ii) −*y*+1, *x*−*y*+1, *z*; (iii) −*x*+*y*, −*x*+1, −*z*+1/2; (iv) *x*, *y*+1, *z*; (v) *x*−1, *y*, *z*; (vi) *x*−*y*, *x*, *z*+1/2; (vii) −*x*, −*y*+1, −*z*; (viii) −*x*+1, −*y*+1, −*z*; (ix) −*y*+1, *x*−*y*, *z*; (x) *x*+1, *y*, *z*; (xi) −*x*+*y*, −*x*, −*z*+1/2; (xii) −*x*+*y*+1, −*x*+1, −*z*+1/2; (xiii) −*y*, *x*−*y*, *z*; (xiv) −*x*+*y*, −*x*, *z*; (xv) −*x*+*y*−1, −*x*, *z*; (xvi) *x*, *y*−1, *z*; (xvii) −*x*, −*y*, −*z*; (xviii) *x*−*y*, *x*, *z*−1

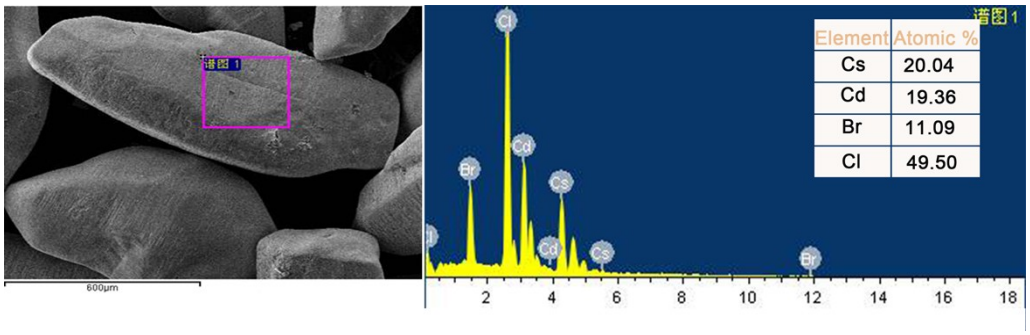

Fig. S1. The energy-dispersive (EDS) analysis for $Cs_2Cd_2BrCl_5$.

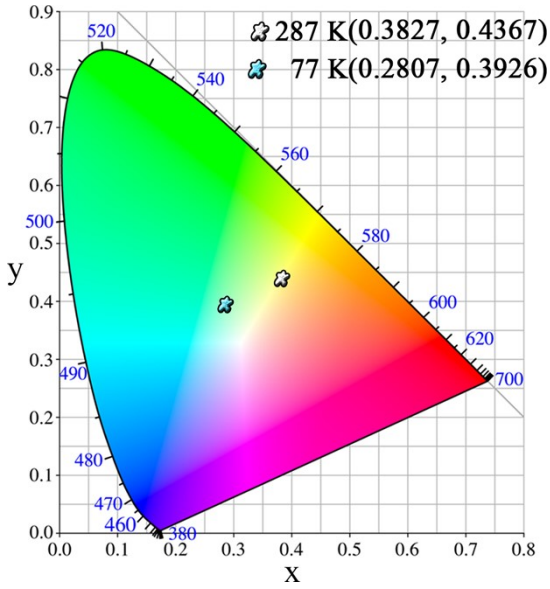

Fig. S2. The CIE chromaticity coordinates of $Cs_2Cd_2BrCl_5$ at 287 K and 77 K.

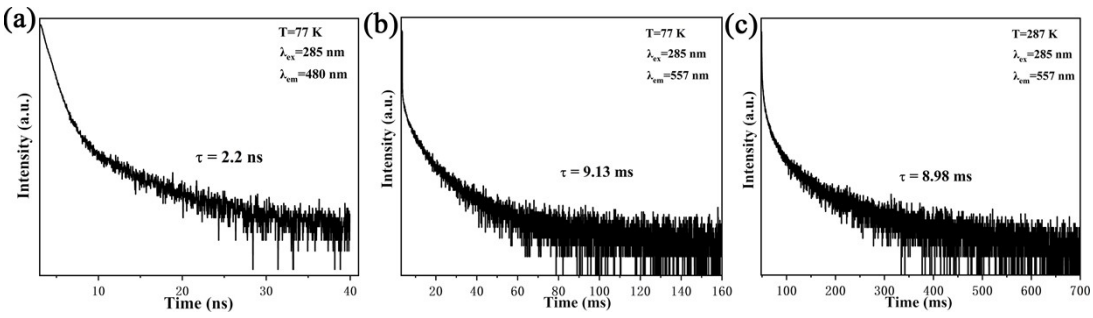

Fig. S3. The time-resolved decay curves of $Cs_2Cd_2BrCl_5$ at 77 K and 287 K.