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Supporting Information

Continuous production of stable chiral perovskite nanocrystals in spinning nanofibers to exhibit circularly polarized luminescence

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Table S1. PL QY of *R*-PNCs/PAN nanofiber film in comparison with those prepared via other spinning methods

NO.	Chemical formula	PL [nm]	PLQY [%]	Ref.
1	$CsPbBr_3$/PMMA/TPU	524	39	32
2	$MAPbBr_3$/PAN	527	71	33
3	$MAPbBr_3$/PVA	525	72	34
4	$MAPbBr_3$/TPU	525	23.3	39
5	$CsPbBr_3$/PMMA	510	45	40
6	PS/$FAPbBr_3$/PMMA	540	82.3	41
7	$MAPbBr_3$/PAN	510	30.9	42
8	$CsPbBr_3$/PS	513	48	43
9	$MAPbBr_3$/PVDF/CEC	520	51	44
10	$MAPbBr_3$/PAN	529	88	This Work

Table S2. Fluorescence and CPL data of *R*-PNCs/PAN nanofiber films prepared at different ligand ratios

Samples	*R*-MBABr:$PbBr_2$:MABr [mol / mol / mol]	PL [nm]	PLQY [%]	τ [ns]	FWHMs [nm]	g_{lum}
R-PNCs/PAN-0	0 : 1 : 1	526	7.37	78.95	27	/
R-PNCs/PAN-1	1 : 1 : 1	533	19.52	126.86	31	8.9×10^{-3}
R-PNCs/PAN-2	2 : 1 : 1	529	60.18	166.69	25	3.2×10^{-3}
R-PNCs/PAN-3	3 : 1 : 1	528	88.53	168.64	24	1.2×10^{-3}
R-PNCs/PAN-4	4 : 1 : 1	527	42.64	98.19	26	3×10^{-3}
R-PNCs/PAN-5	5 : 1 : 1	529	13.39	61.24	25	5×10^{-3}

Table S3. Chiral agents, synthesis processes, CPL emission wavelengths, maximum g_{lum}, and optical chirality mechanisms of CPL-active materials containing PNCs

Chiral agent	Synthesis process	CPL & g_{lum}	Generation mechanism	Ref.
(*R*)-2-octylamine/*R*-,*S*-MBA:Br	Ligand-controlled synthesis/postsynthetic ligand treatment	490-528 nm 6.8×10^{-2}	Electron−hole wave functions	16
DGAm/N,N-bis(octadecyl)-l-Glutamic diamide (LGAm)	Tip sonication–coassembly	410-600 nm 7.3×10^{-3}	Surface chiral distortion caused by chiral organic molecules	15
R/L-silica nanohelices	Spin-coating	517.5 nm 6×10^{-3}	Dipolar interaction	13
Chiral helical polyacetylenes	Electrospinning	505 nm 3×10^{-2}	Chiral helical polymers as handed-selective fluorescence filters	14
R-α-octylamine	Tip sonication-coassembly	520 nm 7×10^{-3}	Surface chiral distortion caused by chiral organic molecules	17
R-, *S*-MBA:Br	Fiber-spinning chemistry	530 nm 8.9×10^{-3}	Surface lattice distortion / short-range Coulomb interaction	This work

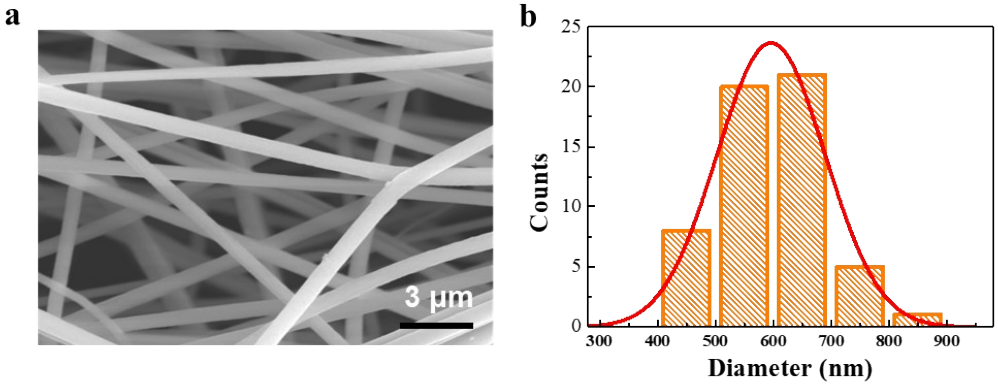

Fig. S1 (a) SEM image and (b) size distribution of *R*-PNCs/PAN nanofiber films.

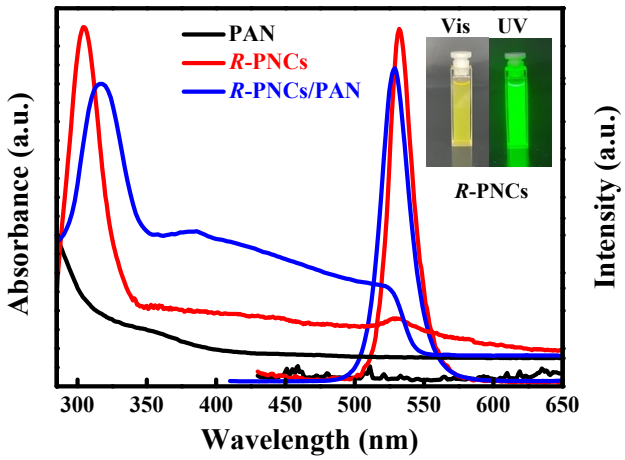

Fig. S2 UV-Vis and fluorescence spectra of pure PAN nanofiber film, pristine *R*-PNCs solution obtained by LARP, and *R*-PNCs/PAN nanofiber films. The inset shows the photographs of a solution of LARP-derived pristine *R*-PNCs taken under daylight and UV light.

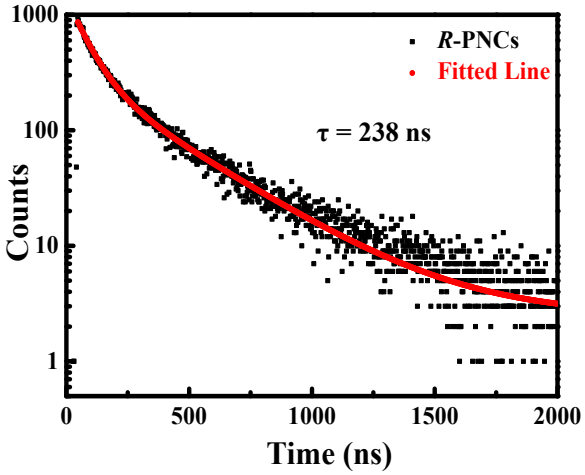

Fig. S3 PL decay of pristine *R*-PNCs obtained by LARP.

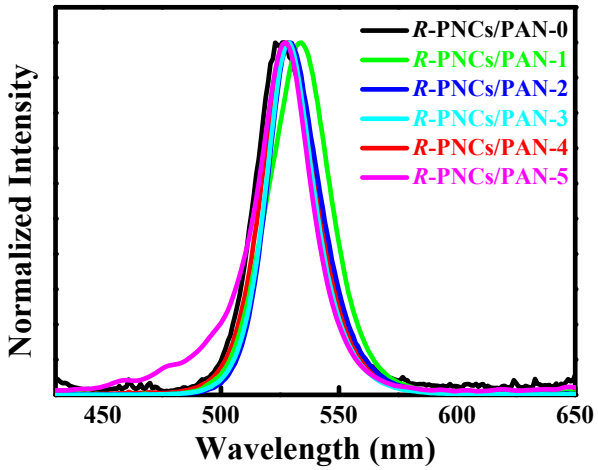

Fig. S4 Fluorescence spectra of *R*-PNCs/PAN nanofiber films obtained by adding different molar ratios of chiral *R*-MBABr.

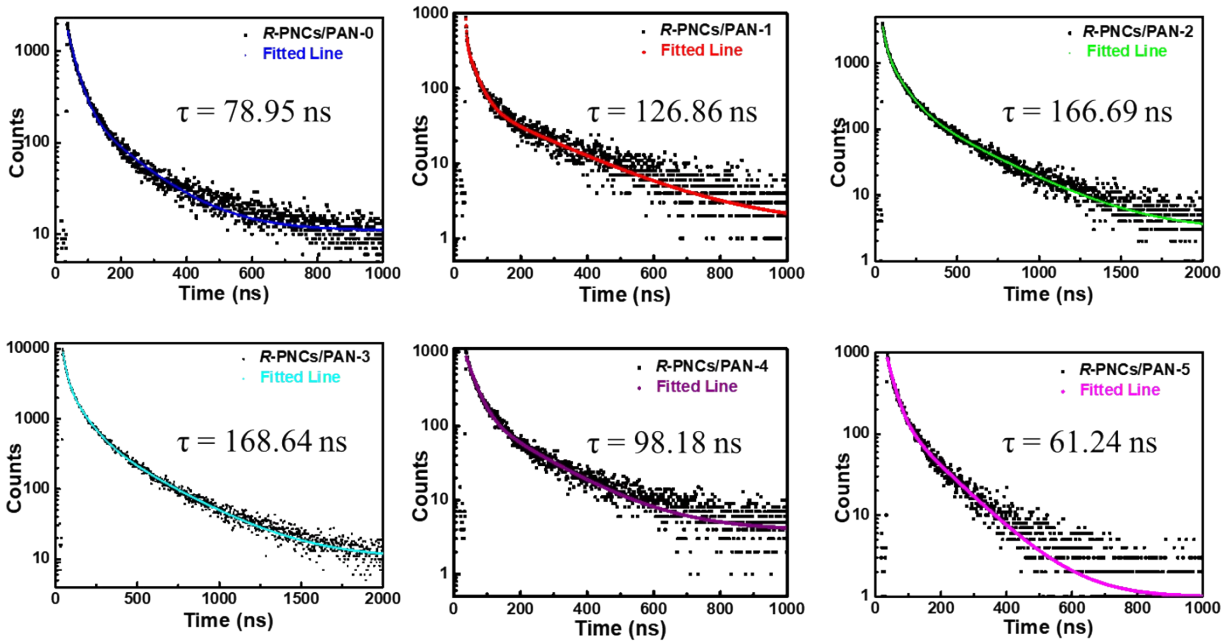

Fig. S5 Transient fluorescence lifetime of *R*-PNCs/PAN nanofiber films obtained with different molar ratios of chiral *R*-MBABr.

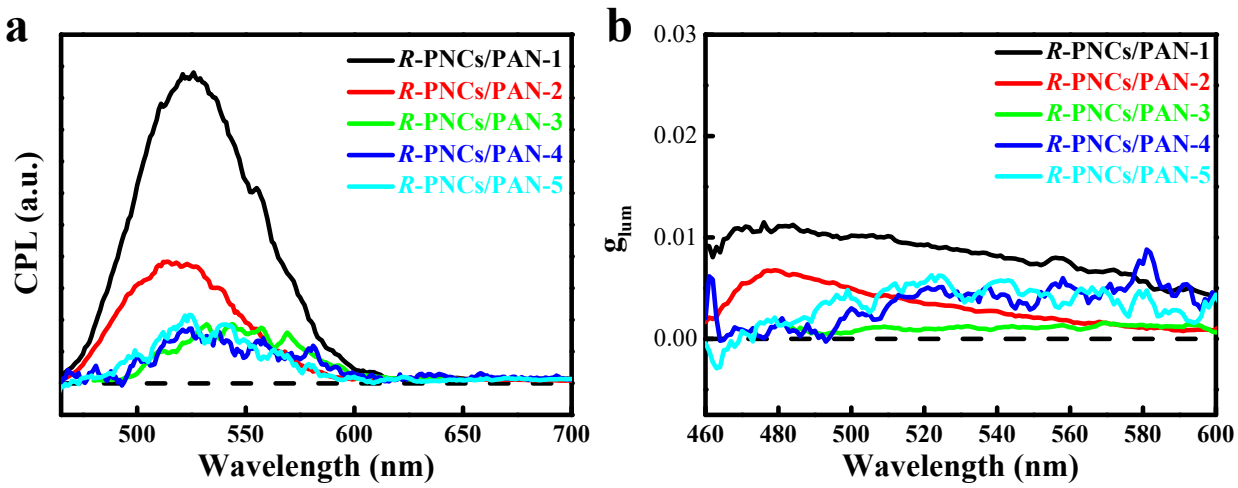

Fig. S6 (a) CPL and (b) corresponding g_{lum} spectra of *R*-PNCs/PAN-1, -2, -3, -4, and -5 nanofiber films.