

Supplementary Information

A Solid-liquid Two-phase Precipitation Method for Growth of Fullerene (C₆₀) Nanowires

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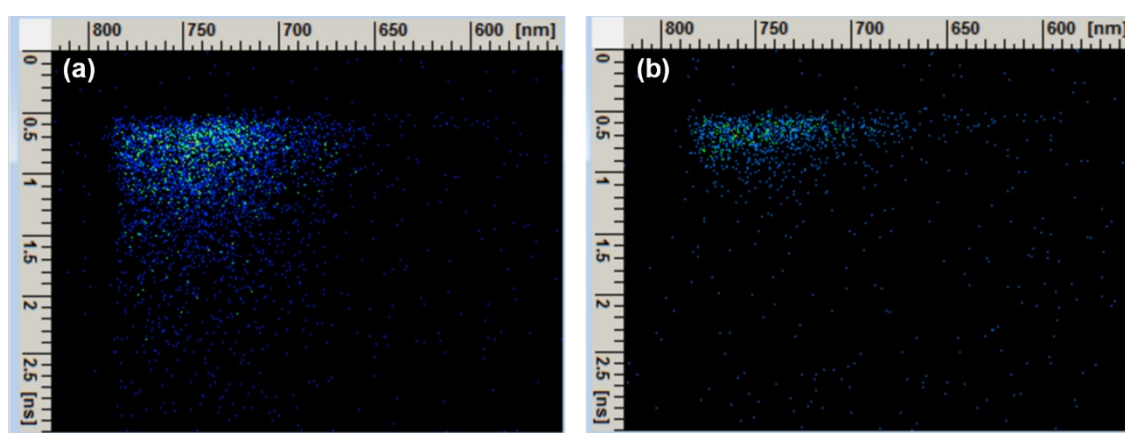


Fig. S1. Streak camera images of the time-resolved photoluminescence (TRPL) of (a) C₆₀ nanowires and (b) pristine C₆₀ powder.

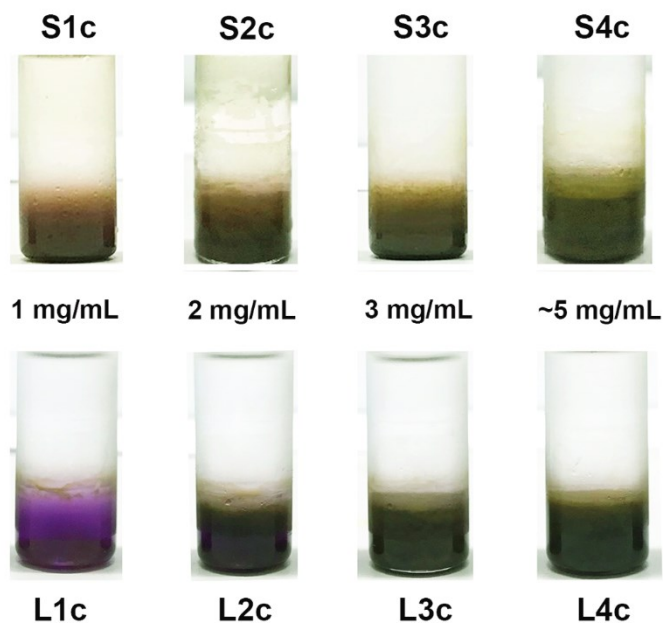


Fig. S2. The growth of C_{60} nanowires in m-xylene/IPA system for 24 h with a fixed C_{60} solution-to-IPA volume ratio of 1:2 and C_{60} concentration of 1 mg/mL, 2 mg/mL, 3 mg/mL and ~5 mg/mL, respectively, through the SLTPP method (top) and the LLIP method (bottom).

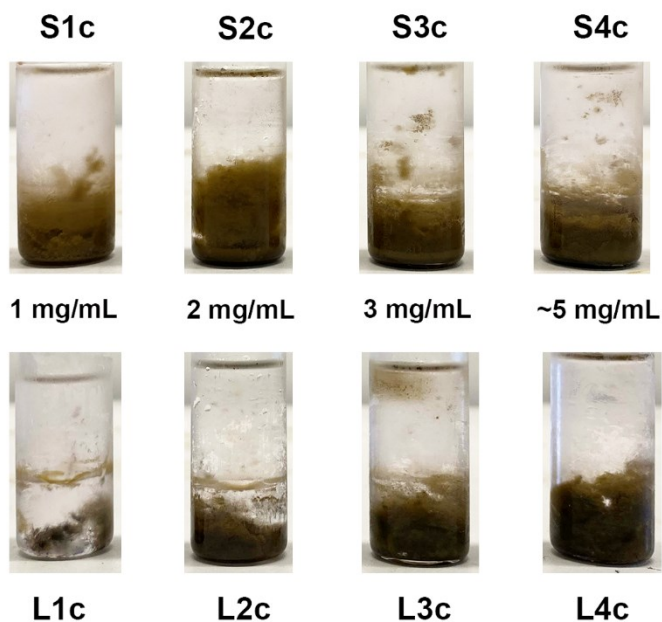


Fig. S3. The growth of C_{60} nanowires in m-xylene/IPA system for a week with a fixed C_{60} solution-to-IPA volume ratio of 1:2 and C_{60} concentration of 1 mg/mL, 2 mg/mL, 3 mg/mL and ~5 mg/mL, respectively, through the SLTPP method (top) and the LLIP method (bottom).

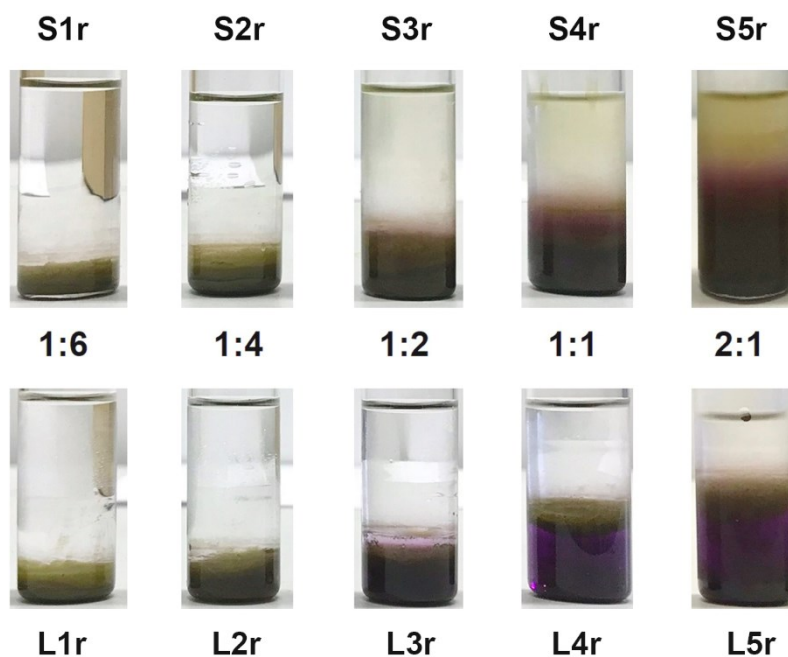


Fig. S4. The growth of C_{60} nanowires in m-xylene/IPA system for 24 h with a fixed C_{60} concentration of 2 mg/mL and C_{60} solution-to-IPA volume ratio of 1:6, 1:4, 1:2 1:1, and 2:1, respectively, through the SLTPP method (top) and the LLIP method (bottom).

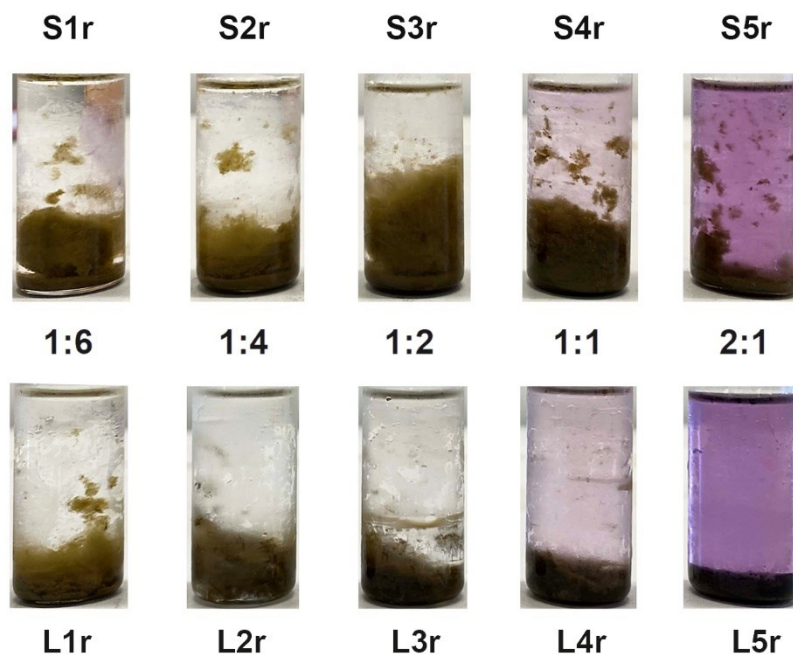


Fig. S5. The growth of C_{60} nanowires in m-xylene/IPA system for a week with a fixed C_{60} concentration of 2 mg/mL and C_{60} solution-to-IPA volume ratio of 1:6, 1:4, 1:2 1:1, and 2:1, respectively, through the SLTPP method (top) and the LLIP method (bottom).

Table S1. C₆₀ nanowire samples prepared by the SLTPP and the LLIP methods for comparison using C₆₀/m-xylene/IPA systems with different C₆₀ concentrations in m-xylene. Yellow precipitates correspond to C₆₀ nanowires while the dark precipitates correspond to needle-like larger C₆₀ crystals.

SAMPLE ID	SYNTHESIS METHOD	CONCENTRATION OF C ₆₀ (mg/ml)	PRESENCE OF C ₆₀ AFTER 2 HOURS (VISUAL APPEARANCE)		PRESENCE OF C ₆₀ AFTER 24 HOURS (VISUAL APPEARANCE)	
			COLOUR & AMOUNT OF PRECIPITATES	COLOUR OF SOLUTION	COLOUR & AMOUNT OF PRECIPITATES	COLOUR OF SOLUTION
S1c	SLTPP	1	Yellow	Purple	Yellow/Abundant	Colourless
S2c	SLTPP	2	Yellow	Purple	Yellow/Abundant	Colourless
S3c	SLTPP	3	Yellow	Purple	Yellow/Abundant	Colourless
S4c	SLTPP	~5.2 (Saturated)	Yellow/Abundant	Nearly colourless	Yellow/Abundant	Colourless
L1c	LLIP	1	Brown-black/Very few	Purple	Yellow/Very few Black/A few	Purple
L2c	LLIP	2	Brown-black/Very few	Purple	Yellow/Very few Black/A few	Purple
L3c	LLIP	3	Brown-black	Purple	Yellow and black /Abundant	Nearly colourless
L4c	LLIP	~5.2 (Saturated)	Yellow and black /Abundant	Nearly colourless	Yellow and black /Abundant	Colourless

Table S2. C₆₀ nanowire samples prepared through both the SLTPP and the LLIP methods using C₆₀/m-xylene/IPA system with varied solvent volume ratios. Yellow precipitates correspond to C₆₀ nanowires while the dark precipitates correspond to needle-like larger C₆₀ crystals.

SAMPLE ID	SYNTHESIS METHOD	M-XYLENE TO IPA VOLUME RATIO	PRESENCE OF C ₆₀ AFTER 2 HOURS (VISUAL APPEARANCE)		PRESENCE OF C ₆₀ AFTER 24 HOURS (VISUAL APPEARANCE)	
			COLOUR & AMOUNT OF PRECIPITATES	COLOUR OF SOLUTION	COLOUR & AMOUNT OF PRECIPITATES	COLOUR OF SOLUTION
S1r	SLTPP	1:6	Yellow/Abundant	Colourless	Yellow/Abundant	Colourless
S2r	SLTPP	1:4	Yellow	Purple	Yellow/Abundant	Colourless
S3r	SLTPP	1:2	Yellow	Purple	Yellow/Abundant	Nearly colourless
S4r	SLTPP	1:1	Yellow	Purple	Yellow/Abundant	Light purple
S5r	SLTPP	2:1	Yellow-brown	Purple	Yellow-brown /Abundant	Light purple
L1r	LLIP	1:6	Yellow	Purple	Yellow/Abundant	Colourless
L2r	LLIP	1:4	Brown	Purple	Brown/Abundant	Colourless
L3r	LLIP	1:2	Dark brown	Purple	Dark brown	Purple
L4r	LLIP	1:1	Dark brown	Dark purple	Dark brown	Dark purple
L5r	LLIP	2:1	Dark brown	Dark purple	Dark brown	Dark purple