

Dispersion of arc-discharged single-walled carbon nanotubes using the natural α -amino acid derivate *N*-dodecanoyl leucinate

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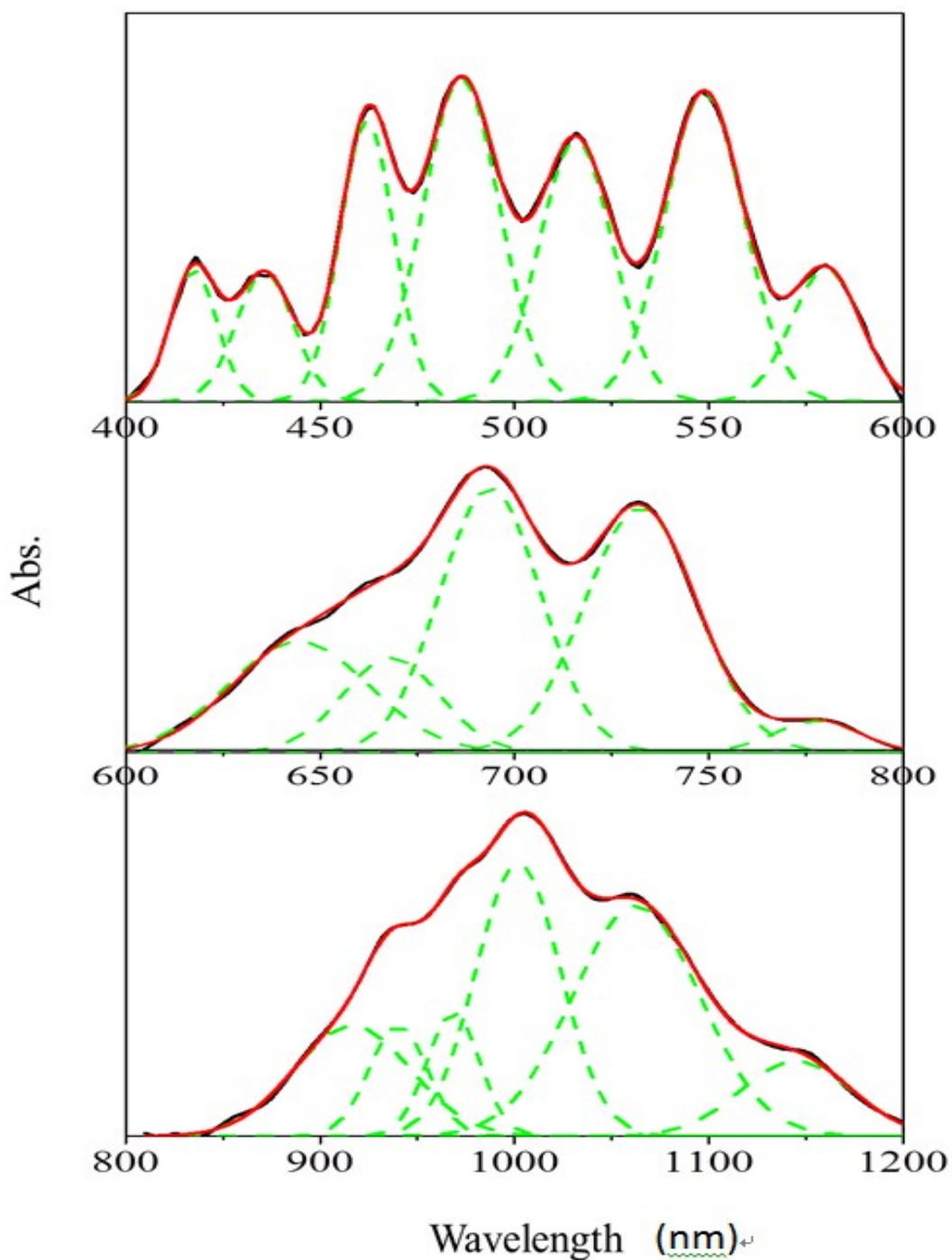


Figure S1 Gaussian fitting of the optical absorption spectrum of the sodium *N*-dodecanoyl leucinate dispersed SWNTs.

Table S1 Assignment of the optical absorption features to the interband transitions and chiral indices of SWNTs.

Absorption peaks (nm)	Interband transitions	Calculated diameters (nm)	Chiral indices (n, m)
416.3	S ₄₄	1.406	(16,3)
436.2	S ₃₃	1.175	(11,6)
461.8	2S ₃₃	1.244	(14,3)
486.3	3S ₃₃	1.311	(10,9)
518.5	S ₃₃	1.397	(14,6)
548.0	S ₃₃	1.477	(14,7)
585.0	S ₃₃	1.575	(12,11)
732.9	M ₁₁	1.482	(15,6)
777.1	M ₁₁	1.571	(13,10)
673.2	M ₁₁	1.361	(10,10)
641.8	M ₁₁	1.298	(11,8)
695.2	M ₁₁	1.404	(13,7)
942.8	S ₂₂	1.270	(13,5)
1010.4	S ₂₂	1.361	(16,2)
1054.9	S ₂₂	1.421	(14,6)
905.3	S ₂₂	1.220	(14,3)
978.1	S ₂₂	1.318	(10,9)

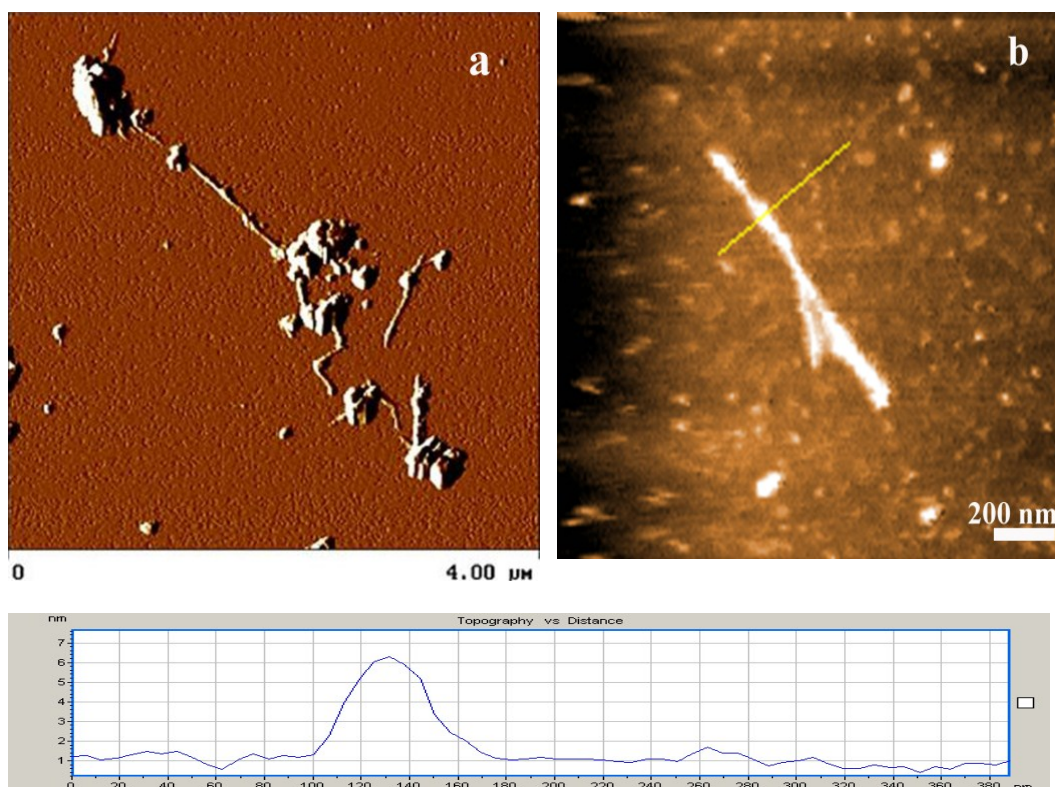


Figure S2. AFM of primary purified single-walled carbon nanotubes.

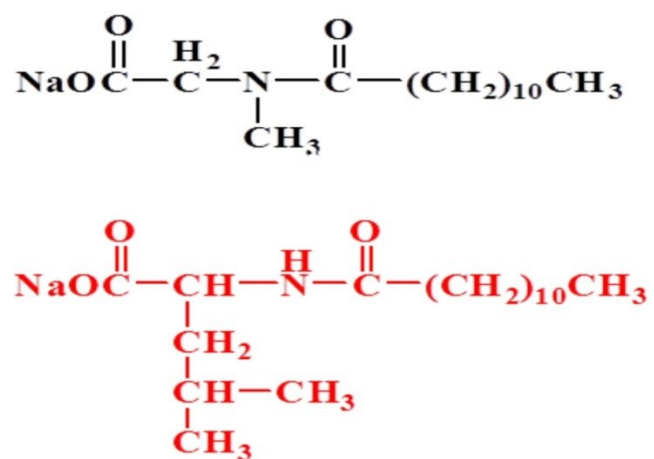


Figure S3 Molecular structures of sodium *N*-cocoyl sarcosinate (black) and sodium *N*-dodecanoyl leucinate (red).

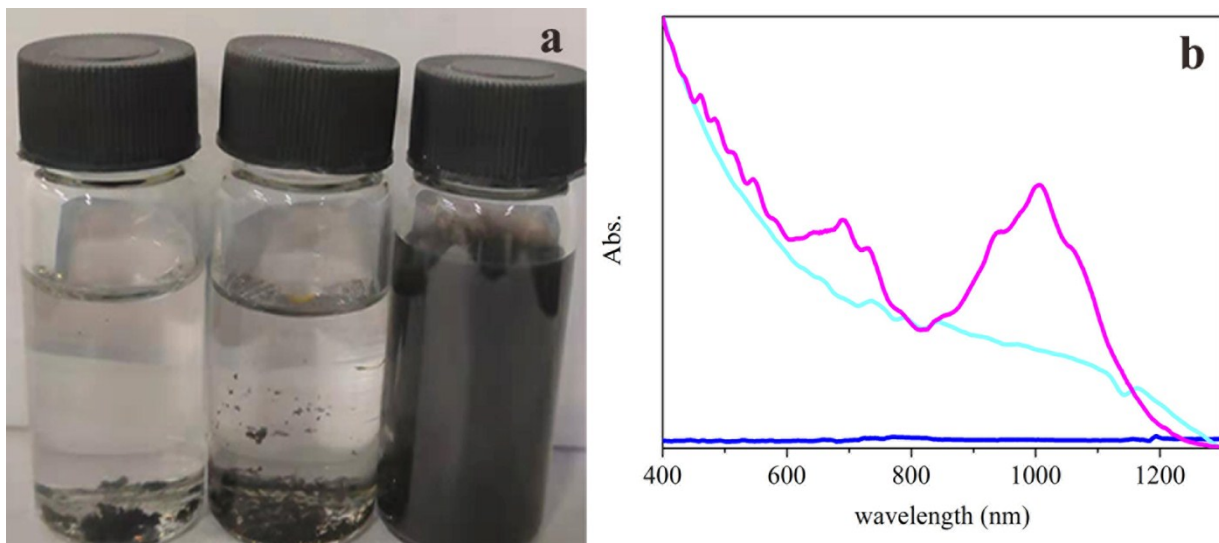


Figure S4 The photos (from left to right) (a) and optical absorption spectra (from bottom to top) (b) of the leucine, *N*-dodecanoyl leucine and sodium *N*-dodecanoyl leucinate dispersed SWNTs, respectively.

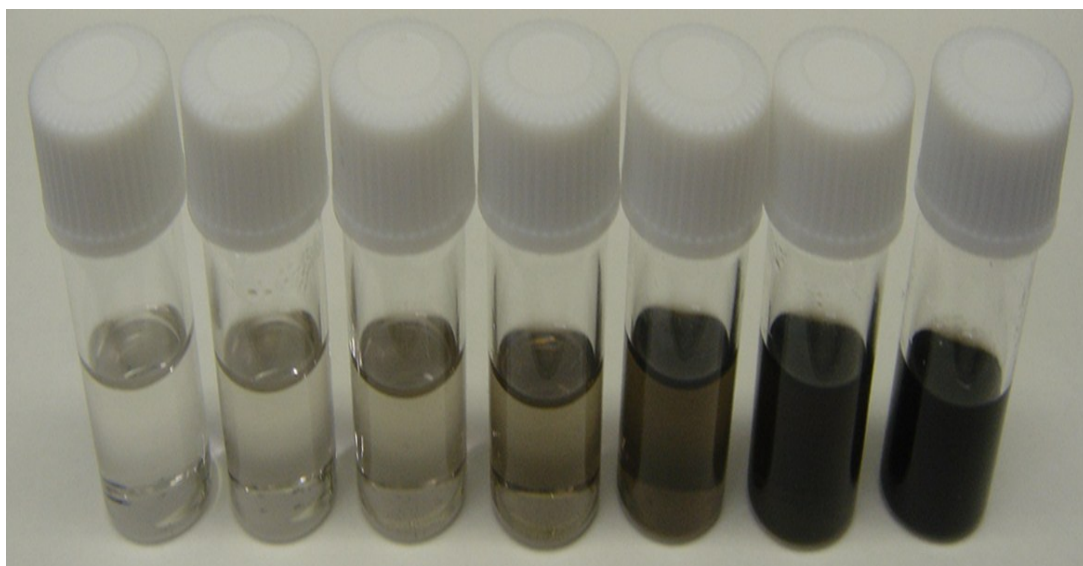


Figure S5 The photos (from left to right) of sodium *N*-dodecanoyl leucinate dispersed SWNTs with concentrations of 1.2, 2.3, 4.7, 9.4, 18.8 and 37.5 $\mu\text{g/ml}$, respectively.

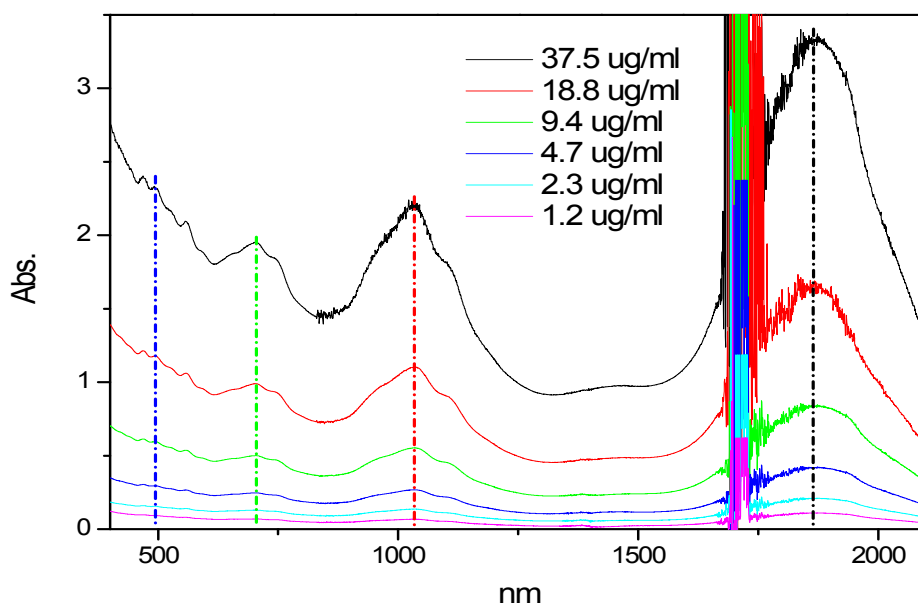


Fig S6 Vis-NIR spectra of the dispersed SWNTs with varying concentrations of sodium *N*-dodecanoyl leucinate

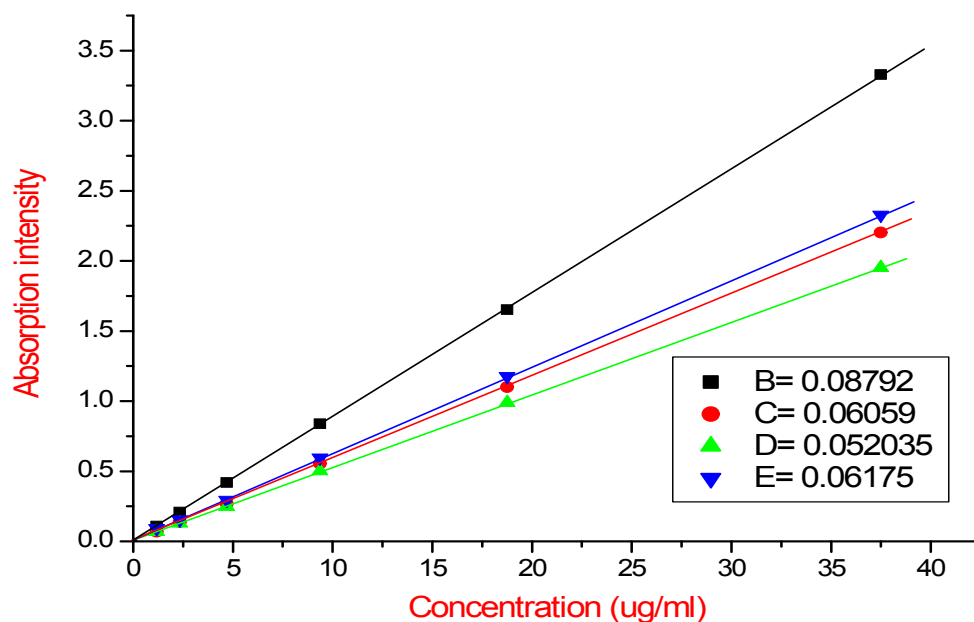


Fig S7 The absorbance dependence on the concentration of the sodium *N*-dodecanoyl leucinate dispersed SWNTs at S_{33} (blue) S_{22} (red) M_{11} (green) and S_{11} absorption bands, respectively.

Table S2 The extinction coefficients of the sodium *N*-dodecanoyl leucinate dispersed SWNTs at S_{33} , S_{22} , M_{11} and S_{33} absorption bands, respectively.

	S_{33} (493 nm)	M_{11} (700 nm)	S_{22} (1037 nm)	S_{11} (1850 nm)
Slope	0.06175	0.05204	0.06059	0.08792
$\epsilon(\text{mg/mL})^{-1} \text{ cm}^{-1}$	61.75	52.04	60.59	87.92