

# Cheng-Si Tsao

## List of Publications by Year in descending order

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111  
papers

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101543  
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docs citations

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times ranked

6654  
citing authors

#	ARTICLE	IF	CITATIONS
1	Near-infrared organic light-emitting diodes with very high external quantum efficiency and radiance. <i>Nature Photonics</i> , 2017, 11, 63-68.	31.4	494
2	Al <sup>+</sup> Vacuum-Deposited Stoichiometrically Balanced Inorganic Cesium Lead Halide Perovskite Solar Cells with Stabilized Efficiency Exceeding 11%. <i>Advanced Materials</i> , 2017, 29, 1605290.	21.0	321
3	NiO <sub>x</sub> Electrode Interlayer and CH <sub>3</sub> NH <sub>2</sub> /CH <sub>3</sub> NH <sub>3</sub> PbBr <sub>3</sub> Interface Treatment to Markedly Advance Hybrid Perovskite-Based Light-Emitting Diodes. <i>Advanced Materials</i> , 2016, 28, 8687-8694.	21.0	147
4	Quantitative Nanoorganized Structural Evolution for a High Efficiency Bulk Heterojunction Polymer Solar Cell. <i>Journal of the American Chemical Society</i> , 2011, 133, 13064-13073.	13.7	135
5	Precipitation kinetics and transformation of metastable phases in Al-Mg-Si alloys. <i>Acta Materialia</i> , 2006, 54, 4621-4631.	7.9	131
6	Characterization of Pore Structure in Metal-Organic Framework by Small-Angle X-ray Scattering. <i>Journal of the American Chemical Society</i> , 2007, 129, 15997-16004.	13.7	119
7	Nanoparticle-Tuned Self-Organization of a Bulk Heterojunction Hybrid Solar Cell with Enhanced Performance. <i>ACS Nano</i> , 2012, 6, 1657-1666.	14.6	116
8	An atomic scale structural investigation of nanometre-sized $\delta$ -precipitates in the 7050 aluminium alloy. <i>Acta Materialia</i> , 2019, 174, 351-368.	7.9	110
9	Nanostructure and Hydrogen Spillover of Bridged Metal-Organic Frameworks. <i>Journal of the American Chemical Society</i> , 2009, 131, 1404-1406.	13.7	103
10	Bi-hierarchical nanostructures of donor-acceptor copolymer and fullerene for high efficient bulk heterojunction solar cells. <i>Energy and Environmental Science</i> , 2013, 6, 1938.	30.8	101
11	A unified constitutive model for asymmetric tension and compression creep-ageing behaviour of naturally aged Al-Cu-Li alloy. <i>International Journal of Plasticity</i> , 2017, 89, 130-149.	8.8	100
12	Hydrogen storage performance in palladium-doped graphene/carbon composites. <i>International Journal of Hydrogen Energy</i> , 2013, 38, 3681-3688.	7.1	99
13	Perovskite Quantum Dots with Near Unity Solution and Neat-Film Photoluminescent Quantum Yield by Novel Spray Synthesis. <i>Advanced Materials</i> , 2018, 30, 1705532.	21.0	84
14	Using an Airbrush Pen for Layer-by-Layer Growth of Continuous Perovskite Thin Films for Hybrid Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 2359-2366.	8.0	82
15	Effect of Catalyst Size on Hydrogen Storage Capacity of Pt-Impregnated Active Carbon via Spillover. <i>Journal of Physical Chemistry Letters</i> , 2010, 1, 1060-1063.	4.6	78
16	Formation Mechanism and Control of Perovskite Films from Solution to Crystalline Phase Studied by in Situ Synchrotron Scattering. <i>ACS Applied Materials &amp; Interfaces</i> , 2016, 8, 26712-26721.	8.0	69
17	Enhancing photovoltaic performance by tuning the domain sizes of a small-molecule acceptor by side-chain-engineered polymer donors. <i>Journal of Materials Chemistry A</i> , 2019, 7, 3072-3082.	10.3	68
18	Achieving high efficiency and improved stability in large-area ITO-free perovskite solar cells with thiol-functionalized self-assembled monolayers. <i>Journal of Materials Chemistry A</i> , 2016, 4, 7903-7913.	10.3	64

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19	Fractal Aggregates of Conjugated Polymer in Solution State. <i>Langmuir</i> , 2006, 22, 11009-11015.	3.5	63
20	Small- and Wide-Angle X-ray Scattering Characterization of Bulk Heterojunction Polymer Solar Cells with Different Fullerene Derivatives. <i>Journal of Physical Chemistry C</i> , 2012, 116, 10238-10244.	3.1	62
21	Sequential Deposition of Donor and Acceptor Provides High-Performance Semitransparent Organic Photovoltaics Having a Pseudo "n" Active Layer Structure. <i>Advanced Energy Materials</i> , 2021, 11, 2003576.	19.5	52
22	Hydrogen Spillover Effect of Pt-Doped Activated Carbon Studied by Inelastic Neutron Scattering. <i>Journal of Physical Chemistry Letters</i> , 2011, 2, 2322-2325.	4.6	51
23	Performance Characterization of Dye-Sensitized Photovoltaics under Indoor Lighting. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 1824-1830.	4.6	51
24	Segmental Alignment in the Aggregate Domains of Poly(9,9-dioctylfluorene) in Semidilute Solution. <i>Macromolecules</i> , 2007, 40, 6572-6578.	4.8	48
25	Hydrogen storage measurement, synthesis and characterization of metal-organic frameworks via bridged spillover. <i>Journal of Alloys and Compounds</i> , 2010, 492, 88-94.	5.5	48
26	Mechanism and control of the structural evolution of a polymer solar cell from a bulk heterojunction to a thermally unstable hierarchical structure. <i>Nanoscale</i> , 2013, 5, 7629.	5.6	48
27	Effects of oxygen functional groups on the enhancement of the hydrogen spillover of Pd-doped activated carbon. <i>Journal of Colloid and Interface Science</i> , 2015, 441, 98-105.	9.4	48
28	Preparation of metal halide perovskite solar cells through a liquid droplet assisted method. <i>Journal of Materials Chemistry A</i> , 2015, 3, 9257-9263.	10.3	47
29	Realizing Efficient Charge/Energy Transfer and Charge Extraction in Fullerene-Free Organic Photovoltaics via a Versatile Third Component. <i>Nano Letters</i> , 2019, 19, 5053-5061.	9.1	47
30	Facile hot solvent vapor annealing for high performance polymer solar cell using spray process. <i>Solar Energy Materials and Solar Cells</i> , 2013, 114, 24-30.	6.2	45
31	Insights into the Morphological Instability of Bulk Heterojunction PTB7-Th/PCBM Solar Cells upon High-Temperature Aging. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 14808-14816.	8.0	44
32	Micellelike aggregates in solutions of semirigid hairy-rod polymers. <i>Physical Review E</i> , 2005, 72, 031802.	2.1	42
33	High-performance ITO-free spray-processed polymer solar cells with incorporating ink-jet printed grid. <i>Organic Electronics</i> , 2013, 14, 2809-2817.	2.6	40
34	Study of Aggregates of Fullerene-Based Ionomers in Aqueous Solutions Using Small Angle Neutron and X-ray Scattering. <i>Journal of Physical Chemistry B</i> , 1999, 103, 1059-1063.	2.6	39
35	Insight into Evolution, Processing and Performance of Multi-length-scale Structures in Planar Heterojunction Perovskite Solar Cells. <i>Scientific Reports</i> , 2015, 5, 13657.	3.3	37
36	Evidence for Ambient-Temperature Reversible Catalytic Hydrogenation in Pt-doped Carbons. <i>Nano Letters</i> , 2013, 13, 137-141.	9.1	36

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37	Phase transformation and precipitation of an Al–Cu alloy during non-isothermal heating studied by in situ small-angle and wide-angle scattering. <i>Journal of Alloys and Compounds</i> , 2013, 579, 138-146.	5.5	36
38	Performance improvement of large-area roll-to-roll slot-die-coated inverted polymer solar cell by tailoring electron transport layer. <i>Solar Energy Materials and Solar Cells</i> , 2014, 130, 191-198.	6.2	34
39	A universal roll-to-roll slot-die coating approach towards high-efficiency organic photovoltaics. <i>Progress in Photovoltaics: Research and Applications</i> , 2017, 25, 928-935.	8.1	34
40	Neutron Scattering Methodology for Absolute Measurement of Room-Temperature Hydrogen Storage Capacity and Evidence for Spillover Effect in a Pt-Doped Activated Carbon. <i>Journal of Physical Chemistry Letters</i> , 2010, 1, 1569-1573.	4.6	33
41	An integrated approach towards the fabrication of highly efficient and long-term stable perovskite nanowire solar cells. <i>Journal of Materials Chemistry A</i> , 2017, 5, 22824-22833.	10.3	33
42	Rapid and sheet-to-sheet slot-die coating manufacture of highly efficient perovskite solar cells processed under ambient air. <i>Solar Energy</i> , 2019, 177, 255-261.	6.1	32
43	Analysis of Small-Angle Scattering Data from Spherical Particles by both the Indirect Transform Method and the Maximum-Entropy Method. <i>Journal of Applied Crystallography</i> , 1997, 30, 353-361.	4.5	31
44	High-efficiency bulk heterojunction perovskite solar cell fabricated by one-step solution process using single solvent: synthesis and characterization of material and film formation mechanism. <i>Journal of Materials Chemistry A</i> , 2018, 6, 4179-4188.	10.3	31
45	Concurrent Transformation of Copolymer Domain Morphology Induced by the Order–Disorder Transition of Comb Block in Supramolecular Comb–Coil Block Copolymer. <i>Macromolecules</i> , 2004, 37, 8984-8991.	4.8	30
46	Efficient Cesium Lead Halide Perovskite Solar Cells through Alternative Thousand-Layer Rapid Deposition. <i>Advanced Functional Materials</i> , 2019, 29, 1905163.	14.9	30
47	A novel non-porous separator based on single-ion conducting triblock copolymer for stable lithium electrodeposition. <i>Journal of Power Sources</i> , 2019, 419, 58-64.	7.8	30
48	Distribution of Crystalline Polymer and Fullerene Clusters in Both Horizontal and Vertical Directions of High-Efficiency Bulk Heterojunction Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2013, 5, 5413-5422.	8.0	28
49	Insights into solvent vapor annealing on the performance of bulk heterojunction solar cells by a quantitative nanomorphology study. <i>RSC Advances</i> , 2014, 4, 6246.	3.6	27
50	SAXS characterization of the Nafion membrane nanostructure modified by radiation cross-linkage. <i>Polymer</i> , 2005, 46, 8430-8437.	3.8	26
51	Size distribution and coarsening kinetics of $\theta$ precipitates in Al–Li alloys considering temperature and concentration dependence. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2003, 363, 228-233.	5.6	24
52	Adsorption of dodecahydroxylated-fullerene monolayers at the air–water interface. <i>Physica B: Condensed Matter</i> , 2000, 283, 49-52.	2.7	23
53	Toward environmentally compatible molecular solar cells processed from halogen-free solvents. <i>Journal of Materials Chemistry A</i> , 2016, 4, 7341-7351.	10.3	23
54	Atom-Varied Side Chains in Conjugated Polymers Affect Efficiencies of Photovoltaic Devices Incorporating Small Molecules. <i>ACS Applied Polymer Materials</i> , 2020, 2, 636-646.	4.4	23

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55	HR-STEM investigation of atomic lattice defects in different types of $\delta$ -precipitates in creep-age forming Al–Zn–Mg–Cu aluminium alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 815, 141213.	5.6	22
56	Structural Analysis and Thermal Behavior of Pore Networks in High-Surface-Area Metal–Organic Framework. <i>Journal of Physical Chemistry C</i> , 2010, 114, 7014-7020.	3.1	21
57	Characteristics of the strain glass transition in as-quenched and 250°C early-aged Ti48.7Ni51.3 shape memory alloy. <i>Acta Materialia</i> , 2016, 120, 159-167.	7.9	21
58	Effect of Arm Length on the Aggregation Structure of Fullerene-Based Star Ionomers. <i>Journal of Physical Chemistry B</i> , 2004, 108, 14884-14888.	2.6	20
59	Structural Evolution of Crystalline Conjugated Polymer/Fullerene Domains from Solution to the Solid State in the Presence and Absence of an Additive. <i>Journal of Physical Chemistry C</i> , 2015, 119, 3408-3417.	3.1	20
60	Morphological control and performance improvement of organic photovoltaic layer of roll-to-roll coated polymer solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2016, 150, 10-18.	6.2	19
61	Correlation between Hierarchical Structure and Processing Control of Large-area Spray-coated Polymer Solar Cells toward High Performance. <i>Scientific Reports</i> , 2016, 6, 20062.	3.3	18
62	Engineering the Core Units of Small-Molecule Acceptors to Enhance the Performance of Organic Photovoltaics. <i>Solar Rrl</i> , 2020, 4, 2000253.	5.8	18
63	Unveiling the underlying mechanism of record-high efficiency organic near-infrared photodetector harnessing a single-component photoactive layer. <i>Materials Horizons</i> , 2020, 7, 1171-1179.	12.2	17
64	Complementary SAXS and SANS for structural characteristics of a polyurethane elastomer of low hard-segment content. <i>Physica B: Condensed Matter</i> , 2006, 385-386, 650-652.	2.7	15
65	Probing the Room Temperature Spatial Distribution of Hydrogen in Nanoporous Carbon by Use of Small-Angle Neutron Scattering. <i>Journal of Physical Chemistry C</i> , 2010, 114, 19895-19900.	3.1	15
66	High-performance printable hybrid perovskite solar cells with an easily accessible n-doped fullerene as a cathode interfacial layer. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 31836-31844.	2.8	15
67	$\delta$ -precipitation in Al–9.7at%Li alloy using small-angle X-ray scattering. <i>Journal of Alloys and Compounds</i> , 1999, 289, 81-87.	5.5	14
68	Hierarchical p and n porous heterojunction in planar perovskite solar cells. <i>Journal of Materials Chemistry A</i> , 2015, 3, 10526-10535.	10.3	14
69	Morphological evolution of GP zones and nanometer-sized precipitates in the AA2050 aluminium alloy. <i>International Journal of Lightweight Materials and Manufacture</i> , 2018, 1, 142-156.	2.1	14
70	Hydrogen plasma-treated MoSe <sub>2</sub> nanosheets enhance the efficiency and stability of organic photovoltaics. <i>Nanoscale</i> , 2019, 11, 17460-17470.	5.6	14
71	Reaction Kinetics and Formation Mechanism of TiO <sub>2</sub> Nanorods in Solution: An Insight into Oriented Attachment. <i>Journal of Physical Chemistry C</i> , 2014, 118, 26332-26340.	3.1	13
72	Small-angle X-ray scattering of carbon-supported Pt nanoparticles for fuel cell. <i>Physica B: Condensed Matter</i> , 2004, 353, 217-222.	2.7	12

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73	Performance Improvement and Characterization of Spray-Coated Organic Photodetectors. ACS Applied Materials & Interfaces, 2018, 10, 33399-33406.	8.0	12
74	A small-angle X-ray scattering study of late-stage $\theta$ precipitation in Al-7.9%Li alloy for growth kinetics and dynamic scaling. Physica B: Condensed Matter, 1999, 271, 322-331.	2.7	11
75	Cofacial Versus Coplanar Arrangement in Centrosymmetric Packing Dimers of Dipolar Small Molecules: Structural Effects on the Crystallization Behaviors and Optoelectronic Characteristics. ACS Applied Materials & Interfaces, 2016, 8, 18266-18276.	8.0	11
76	An improved small-angle X-ray scattering analysis of $\theta$ precipitation in an Al-Cu alloy for growth kinetic studies. Journal of Applied Crystallography, 1999, 32, 426-435.	4.5	10
77	Resolution of structural transformation of intermediates in Al-Cu alloys during non-isothermal precipitation. Journal of Materials Research, 2014, 29, 874-879.	2.6	10
78	Encapsulation improvement and stability of ambient roll-to-roll slot-die-coated organic photovoltaic modules. Solar Energy, 2021, 213, 136-144.	6.1	10
79	Adsorption of Single Platinum Atom on the Graphene Oxide: The Role of the Carbon Lattice. Journal of Physical Chemistry C, 2011, 115, 12023-12032.	3.1	9
80	All-Spray-Coated Inverted Semitransparent Organic Solar Cells and Modules. IEEE Journal of Photovoltaics, 2018, 8, 144-150.	2.5	9
81	Mechanistic Insights into the Effect of Polymer Regioregularity on the Thermal Stability of Polymer Solar Cells. ACS Applied Materials & Interfaces, 2019, 11, 40310-40319.	8.0	9
82	SANS and SAXS study on aqueous mixtures of fullerene-based star ionomers and sodium dodecyl sulfate. Physica A: Statistical Mechanics and Its Applications, 2002, 304, 191-201.	2.6	8
83	Quantitative Characterization and Mechanism of Formation of Multilength-scale Bulk Heterojunction Structures in Highly Efficient Solution-Processed Small-Molecule Organic Solar Cells. Journal of Physical Chemistry C, 2015, 119, 16507-16517.	3.1	8
84	Mechanism and Analysis of Thermal Burn-In Degradation of OPVs Induced by Evaporated HTL. IEEE Journal of Photovoltaics, 2019, 9, 694-699.	2.5	8
85	Estimation of Burnup in Taiwan Research Reactor Fuel Pins by Using Nondestructive Techniques. Nuclear Technology, 1993, 102, 313-322.	1.2	7
86	The Analysis of Small-Angle Scattering Data from Polydisperse Rodlike Particles by Indirect Transform and Maximum-Entropy Methods. Journal of Applied Crystallography, 1996, 29, 170-177.	4.5	7
87	Study of the aggregation of fullerene-based ionomers in water solutions using small angle neutron scattering and small angle X-ray scattering. Journal of Physics and Chemistry of Solids, 1999, 60, 1351-1353.	4.0	7
88	Characterization of hydrogen adsorption in platinum-doped microporous carbon with varied catalytic properties. Microporous and Mesoporous Materials, 2012, 152, 157-162.	4.4	7
89	The effect of hole transport layer on the thermal stability of inverted polymer solar cells. Polymer Degradation and Stability, 2016, 134, 245-250.	5.8	7
90	Nano-precipitates in severely deformed and low-temperature aged CoCrFeMnNi high-entropy alloy studied by synchrotron small-angle X-ray scattering. Intermetallics, 2019, 105, 146-152.	3.9	7

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91	Pore morphology and topology of zeolite imidazolate framework <scp>ZIF</scp>â€67 revealed by smallâ€angle Xâ€ray scattering. Journal of the Chinese Chemical Society, 2021, 68, 500-506.	1.4	7
92	Revealing Ordered Polymer Packing during Freeze-Drying Fabrication of a Bulk Heterojunction Poly(3-hexylthiophene-2,5-diyl):[6,6]-Phenyl-C61-butyric Acid Methyl Ester Layer: In Situ Optical Spectroscopy, Molecular Dynamics Simulation, and X-ray Diffraction. Journal of Physical Chemistry C, 2017, 121, 14826-14834.	3.1	7
93	Verification of the Neutron Flux of a Modified Zero-Power Reactor Using a Neutron Activation Method. Nuclear Science and Engineering, 2000, 135, 64-72.	1.1	6
94	Crystal shape controlled H2 storage rate in nanoporous carbon composite with ultra-fine Pt nanoparticle. Scientific Reports, 2017, 7, 42438.	3.3	6
95	Quantum Dots: Perovskite Quantum Dots with Near Unity Solution and Neatâ€Film Photoluminescent Quantum Yield by Novel Spray Synthesis (Adv. Mater. 7/2018). Advanced Materials, 2018, 30, 1870048.	21.0	6
96	Scale-up fabrication and characteristic study of oligomer-like small-molecule solar cells by ambient halogen-free sheet-to-sheet and roll-to-roll slot-die coating. Solar Energy, 2022, 231, 536-545.	6.1	6
97	Printed Silver Grid Incorporated With PEIE Doped ZnO as an Auxiliary Layer for High-Efficiency Large-Area Sprayed Organic Photovoltaics. IEEE Journal of Photovoltaics, 2019, 9, 1297-1301.	2.5	5
98	Evolution of Guinier-Preston zones in cold-rolled Al0.2CoCrFeNi high-entropy alloy studied by synchrotron small-angle X-ray scattering. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 769, 138526.	5.6	5
99	Semiâ€Transparent Organic Photovoltaics: Sequential Deposition of Donor and Acceptor Provides Highâ€Performance Semitransparent Organic Photovoltaics Having a Pseudo pâ€“n Active Layer Structure (Adv. Energy Mater. 13/2021). Advanced Energy Materials, 2021, 11, 2170050.	19.5	5
100	Reevaluation of the burnup of spent fuel pins by the activity ratio of 134Cs/137Cs. Applied Radiation and Isotopes, 1993, 44, 1041-1046.	1.5	4
101	SANS study on a fullereneol-based poly(urethaneâ€ether) elastomer. Journal of Physics and Chemistry of Solids, 1999, 60, 1347-1349.	4.0	4
102	Structural evolution and mechanism of strain glass transition in Ti48.7Ni51.3 shape memory alloy studied by anomalous small-angle X-ray scattering. Scientific Reports, 2020, 10, 9402.	3.3	3
103	Performance of a Modified Two-dimensional Gamma Scan System in Spent Fuel Pin Studies. Journal of Nuclear Science and Technology, 1999, 36, 1089-1097.	1.3	2
104	Quantitative correlation of the effects of crystallinity and additives on nanomorphology and solar cell performance of isoindigo-based copolymers. Physical Chemistry Chemical Physics, 2017, 19, 23515-23523.	2.8	2
105	Evolution and Growth Kinetics of Î Precipitates in Naturally Aged MgLiAlZn Alloy Studied by In Situ Small-Angle X-ray Scattering. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 1949-1956.	2.2	2
106	Threeâ€Level Hierarchical 3D Network Formation and Structure Elucidation of Wet Hydrogel of Tunableâ€Highâ€Strength Nanocomposites. Macromolecular Materials and Engineering, 2022, 307, .	3.6	2
107	Instrumental Design and Verification of a Nondestructive Testing with Neutron Backscattering for Boron-based Material Characteristics. Journal of Nuclear Science and Technology, 2006, 43, 1517-1521.	1.3	1
108	Volumetric distribution of Pt nanoparticles supported on mesoporous carbon substrates studied by X-ray photoelectron spectroscopy depth profiling. Carbon, 2013, 54, 389-395.	10.3	1



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109	A Study on the Nanoparticles Evolution in Isothermally Aged Strain Glass of Ti48.7Ni51.3 Shape Memory Alloy by In Situ Small-Angle X-ray Scattering. Metals, 2018, 8, 352.	2.3	1
110	Vacuum Fabrication: Efficient Cesium Lead Halide Perovskite Solar Cells through Alternative Thousandâ€ Layer Rapid Deposition (Adv. Funct. Mater. 44/2019). Advanced Functional Materials, 2019, 29, 1970303.	14.9	1
111	Solid electrolyte interphase layer formation on mesophase graphite electrodes with different electrolytes studied by smallâ€ angle neutron scattering. Journal of the Chinese Chemical Society, 2021, 68, 434-443.	1.4	1