

Table1 Experimental reagents

Compound name	Molecular formula	Purity	CAS	Manufacturer
Iron sulfate heptahydrate	$\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$	AR	15244-10-7	Aladdin
Urea	$\text{CO}(\text{NH}_2)_2$	AR	57-13-6	Aladdin
Nickel sulfate hexahydrate	$\text{NiSO}_4 \cdot 6\text{H}_2\text{O}$	AR	10101-97-0	Aladdin
N,N-Dimethylformamide	$\text{C}_3\text{H}_7\text{NO}$	AR	68-12-2	Aladdin
ethylene glycol	$\text{C}_2\text{H}_6\text{O}_2$	AR	107-21-1	Aladdin
Sublimed sulfur	S	AR	7704-34-9	Aladdin

Table2 Experimental instruments

Instrument name	Model	Manufacturer
X-ray Diffractometer	Empyrean	PANalytical B.V.
Vibrating Sample Magnetometer	7304	Lake Shore Cryotronics
Ultraviolet-visible Spectrophotometer	UV-2600i	Shimadzu Corporation
Scanning Electron Microscope	SU8020	HITACHI