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ABBREVIATIONS AND SYMBOLS

Brunauer-Emmett-Teller BET С amount of carbon С a constant, related to the free energy of adsorption speed of light С **Degrees** Celsius °C d_{hkl} interplanar distance between (hkl) planes the lattice planar spacing d CB conduction band e Electron Conduction band electron ecb eV Electron Volt E binding energy Energy Dispersive X-ray Spectroscopy EDS 10 M EG Ethylene Glycol Binding energy Eb Optical band gap of the semiconductor Eg Plank's constant $(6.63 \times 10^{-34} \text{ Js})$ h photon energy hν เชียงไหม hole valence band hole Joint Committee Powder Diffraction Standards JCPDS kelvin K absorption coefficient conductivity value k keV kilo electron volt kV kilo-volt milligram mg

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min	minute
ml	milliliter
mS	millisiemen
nm	nanometer (10^{-9} m)
Na	Avogadro's number (6.02×10^{23})
•O ₂	superoxide radical
•ОН	hydroxyl radical
SEM O	Scanning Electron Microscopy
SSA	Specific Surface Area
SBET	BET surface area
TEM	Transmission Electron Microscopy
UV	Ultraviolet
VB	valence band
XRD	X-ray diffraction
Z	atomic number
λ	wavelength
μg	microgram (10 ⁻⁶ g)
μg C	microgram of carbon
μm	micron (10^{-6} meter)
μS/cm	microSiemens /centimeter
ລິມສິກຊິນ	the Bragg angle for the reflection
	frequency
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