

Abbreviations

KW	Kilowatt
m	Meter
K	Kelvin
CO ₂	Carbon dioxide
e ⁻	Electron
h ⁺	Hole
J _{sc}	Short circuit current density
V _{oc}	Open circuit voltage
P _{max}	Power maximum
I	Current
FF	Fill factor
η	Power conversion efficiency
DSSCs	Dye-sensitized solar cells

nm	Nanometer
μ	Micro
Pt	Platinum
I^-/I_3^-	Iodide/triodide
eV	Electron volt
TiO ₂	Titanium dioxide
UV	Ultraviolet
hrs	Hours
°	Degree
mM	Millimolar
mV	Millivolt
rf	Radio frequency
SPR	Surface plasmon resonance
Au	Gold
Ag	Silver
Al	Aluminium
AgNO ₃	Silver nitrate
NaBH ₄	Sodium borohydride

CTAB	Cetyl trimethylammonium bromide
NaCl	Sodium chloride
FTO	Flourine doped tin oxide
TiCl ₄	Titanium tetrachloride
N719	Di-tetrabutylammonium cis bis(isothiocyanato)bis (2,2-8bipyridyl-4,4dicarboxylato)ruthenium(II)
HCl	Hydrochloric Acid
cm	Centimeter
min	Minute
XPS	X-Ray photoelectron spectroscopy
$h\nu$	Photon energy
ϕ	Work function
α	Alpha
FWHM	Full Width at half maxima
I'	Intensity
A'	Absorbance
ε	Molar extinction coefficient

L	Path length
C	Concentration
TEM	Transmission electron microscope
HRTEM	High resolution transmission electron microscope
SEM	Scanning electron microscope
XRD	X-ray Diffraction
BET	Brunauer Emmet Teller
FTIR	Fourier Transform Infrared
d	Atomic spacing
Θ	Diffraction angle
λ	Wavelength
wt	Weight
SiO ₂	Silica
g	Gram
T	Photoelectrode with 0 weight% of mesoporous silica
0.5 S	Photoelectrode with 0.5 weight% of mesoporous silica
0.75 S	Photoelectrode with 0.75 weight% of mesoporous silica

1S	Photoelectrode with 1 weight% of mesoporous silica
R_{rec}	Recombination resistance
τ	Lifetime
Ω	Ohm
ω	Angular frequency
σ	Cross-section
a	Particle radius
V	Volume
T_2	Dephasing time
γ	Damping rate
np-Ag _{sc}	Single crystalline silver nanoparticles
np-Ag _{pc}	Polycrystalline silver nanoparticles
M	Molar
OD	Optical density