

List of acronyms and abbreviations

ω	radial frequency
ABPE	applied bias photon-to-current efficiency
AC(DC)	alternating (direct) current
AFM	atomic force microscopy
APCVD	atmospheric pressure chemical vapor deposition
B	susceptance
C ₁₆ TAC	hexadecyltrimethylammonium chloride
CCS	carbon capture and storage
CV	cyclic voltammetry
CVD	chemical vapor deposition
DF-TEM	dark-field transmission electron microscopy
DLS	dynamic light scattering
DSC	differential scanning calorimetry
E	bias voltage
E _c	potential of the conduction band
EIS	electrochemical impedance spectroscopy
E _{redox}	redox potential of the electrolyte
EtOH	ethanol
E _v	potential of the valence band
FCEV	fuel cell electric vehicle
FTO	fluorine-doped tin oxide
G	conductance
GHG	greenhouse gas
HL	Helmholtz layer
J	current density
N _D	electrons given by the ionized dopant
NHE	normal hydrogen electrode
n _i	electrons of the intrinsic semiconductor

PEC	photoelectrochemical cell
PIB-PEO	poly(isobutylene)-block-poly(ethylene oxide)
R	resistance
RF	roughness factor
RHE	reversible hydrogen electrode
SC	semiconductor
SCE	saturated calomel electrode
SCLJ	semiconductor/liquid (=electrolyte) junction
SCR	space charge region
SEM	scanning electron microscopy
STH (efficiency)	solar-to-hydrogen (efficiency)
TCO	thin conductive oxide
TEM	transmission electron microscopy
TEOS	tetraethylorthosilicate
TGA	thermogravimetric analysis
TFA	thin film absorber
THF	tetrahydrofuran
TTIP	titanium tetraisopropoxide
USP	ultrasonic spray pyrolysis
V_{fb}	flat band potential
W	space charge region width
X	reactance
XRD	X-ray diffraction
Y	admittance
Z	impedance
ΔV_{photo}	internal photovoltage