Acronyms 261

**ACN** acetonitrile

**ACQ** aggregation caused quenching

**ADC** algebraic diagrammatic construction

**AEEE** aggregation enhanced excimer emission

AIE aggregation induced emission

**AIEE** aggregation induced enhanced emission

AIPE aggregation induced phosphorescent emission

**bpy** bipyridine

**CASPT2** complete active space with second-order perturbation theory

**CASSCF** complete active space self-consistent field

CBE conduction band edge
CI conical intersection

CIEE crystallization induced emission enhancement

CIP crystallization induced phosphorescence

**CIS** configuration interaction singles

**CMFs** color matching functions

CT charge transfer

DCM dichloromethane

**DFT** density functional theory

**DMSO** dimethylsulfoxide

DMTPS dimethyl tetraphenylsilole
 DPDBF diphenyldibenzofulvene
 DSSC dye-sensitized solar cell
 ECP effective core potential

**EML** emission layer

**EOM-CC** equation-of-motion coupled cluster

**EPESS** enhanced phosphorescence emission in the solid state

**ESIPT** excited state intramolecular proton transfer

**ESOP** excited state oxidation potential

ETL electron transport layer

FC Franck-Condon

FTO fluorine-doped tin oxide

**GSOP** ground state oxidation potential

**HF** Hartree-Fock

**HOMO** highest occupied molecular orbital

**HPS** hexaphenylsilole

**HR** Huang-Rhys

HTL hole transport layer

IC internal conversion

**ILCT** intra-ligand charge transfer

**IPCE** Incident photon to current efficiency conversion

**ISC** intersystem crossing

**ITO** indium tin oxide

**j**<sub>sc</sub> short-circuit photocurrent density

KS Kohn-Sham

LC ligand-centered

LCD liquid crystal displays
LED light-emitting diode

LLCT ligand to ligand charge transfer

**LMMCT** ligand to metal-metal charge transfer

LR linear response

**LR-TDDFT** linear response time-dependent density functional theory

LRC long-range corrected

LUMO lowest unoccupied molecular orbital

**MECP/MECI** minimum energy crossing point / conical intersection

MLCT metal to ligand charge transfer

MLLCT metal-ligand to ligand charge transfer

MM molecular mechanics

MMLCT metal-metal to ligand charge transfer

MO molecular orbital

MRCC multireference coupled cluster

MRCI multireference configuration interaction

**MW** microwave

NHE normal hydrogen electrodeNMV normal mode of vibrationNTO natural transition orbital

**OLED** organic-light emitting diode

**ONIOM** our own N-layered integrated molecular orbital + molecular mechanics

Acronyms 263

**OPVs** organic photovoltaics

**PES** potential energy surface

PL photoluminescence

**ppy** 2-phenylpyridine

PV photovoltaic

QM quantum mechanics

**QM/MM** quantum mechanics/molecular mechanics

**RACI** restricted access to a conical intersection

**RI** resolution of the identity

RIM restriction of internal motion
RIR restriction of internal rotations
RIV restriction of internal vibrations

**SB** Schiff base

SBCT symmetry-breaking charge transfer
SF-DFT spin-flip density functional theory

soc
 spin-orbit coupling
 scaled opposite spin
 scalar relativistic
 state-specific

TCO transparent conduction oxideTDA Tamm-Dancoff approximation

**TDDFT** time-dependent density functional theory

**TDHF** time-dependent Hartree-Fock

**TFA** trifluoroacetic acid

**THBA** 10,10′,11,11′-tetrahydro-5,5′-bidibenzo[a,d][7]-annulenylidene

**THF** tetrahydrofuran

TICT twisted intramolecular charge transfer

**TPE** tetraphenylethylene

**TS** transition state

 $V_{oc}$  open-circuit photovoltage

**xc** exchange-correlation

**ZFS** zero-field splitting

**ZORA** zeroth order regular approximation