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LIST OF ABBREVIATIONS AND SYMBOLS

Abbreviation/Symbol	Description
η	Refractive index
σ	Standard deviation
N	Frequency
°C	Degree centigrade
Å	Angstrom
K	Kelvin
T	Temperature
Φ	Quantum yield
E	Energy
F	Oscillator strength
%	Percentage
ATP	Adenosine Triphosphate
AMP	Adenosine monophosphate
Ad	Adamantyl
Ar	Aryl
acac	Acetylacetone
K_B	Binding constant
Bmim	1-Butyl-3-methylimidazolium
Boc	^{t}Butoxycarbonyl
B3LYP	Becke three-parameter exchange functional and Lee-Yang-Parr correlation functional
Bn	Benzyl
Bu	Butyl
J	Coupling constant
Calcd.	Calculated
$CHCl_3$	Chloroform
COD	Cyclooctadiene
CCD	Charge coupled device
CHEF	Chelation induced enhanced fluorescence

COSY	Correlation spectroscopy
Cl-DNB	1-Chloro 2,4-dinitrobenzene
$CDCl_3$	Deuterated chloroform
D	Doublet
dd	Doublet of doublet
DCM	Dichloromethane
DMF	N,N-Dimethylformamide
DBU	1,8-Diazabicyclo[5.4.0]undec-7-ene
DCE	1,2-Dichloroethane
DCM	Dichloromethane
DL	Detection limit
DME	Dimethoxyethane
DMSO	Dimethylsulfoxide
DMSO-d_6	Deuterated dimethylsulfoxide
DNA	Deoxyribonucleic acid
DEPT	Distortionless enhancement by polarization transfer
DNSA	3,5-dinitrosalicylic acid
DFT	Density functional theory
DNPH	2,4-dinitrophenylhydrazine
DABCO	1,4-Diazabicyclo[2.2. 2]octane
DTBP	Di-*tert*-butyl peroxide
DNP	2,4-Dinitrophenol
3,4-DNT	3,4-Dinitrotoluene
DNBA	3,5-Dinitrobenzoic acid
3,5-DNT	3,5-Dinitrotoluene
λ_{em}	Emission wavelength
λ_{ex}	Excitation wavelength
Equiv.	Equivalent
ESI	Electron spray ionization
ESIPT	Excited state intramolecular proton transfer
EtOH	Ethanol
EtOAc	Ethyl acetate

EDTA	Ethylenediaminetetraacetic Acid
Et	Ethyl
R_0	Förster radius
FT-IR	Fourier-transform infrared spectroscopy
Glu	Glutamate
GTP	Guanosine-5'-triphosphate
h	Hour
HSQC	heteronuclear single quantum correlation
HMBC	Heteronuclear multiple bond correlation
HETCOR	Heteronuclear correlation spectroscopy
HOMO	Highest occupied molecular orbital
HRMS	High-resolution mass spectroscopy
HEPES	4-(2-Hydroxyethyl)-1-piperazineethanesulfonic acid
Hz	Hertz
ICT	Internal charge transfer
IEF-PCM	Integral equation formalism- polarizable continuum model
I	Iso
τ	Lifetime
LUMO	Lowest unoccupied molecular orbital
LC-MS	Liquid chromatography-mass spectrometry
λ_{max}	Maximum wavelength
M	Molar
M	Multiplet
mmol	Millimole
M	Meta
μM	Micromolar
mp	Melting point
MW	Microwave
Mg	Milligram
MHz	Mega hertz
Min	Minute
mL	Milliliter

MeOH	Methanol
MCPBA	*meta*-Chloroperoxybenzoic acid
Mes	Mesityl
N_2	Nitrogen gas
NAC	Nitroaromatic compound
NHC	N-heterocyclic carbene
NB	Nitrobenzoic acid
nm	Nanometer
nM	Nanomolar
k_{nr}	Non-radiative decay rate constant
NM	Nitromethane
NMR	Nuclear magnetic resonance spectroscopy
NMP	N-Methyl-2-pyrrolidone
NMO	N-Methylmorpholine N-oxide
NBA	4-Nitrobenzoic acid
NP	4-Nitrophenol
NT	4-Nitrotoluene
NB	Nitrobenzene
NM	Nitromethane
o	Ortho
ORTEP	Oak ridge thermal ellipsoid plot
1D	One-dimensional
PA	Picric acid
PEPPSI	Pyridine enhanced precatalyst preparation stabilization and initiation
PET	Photo-induced electron transfer
ppb	Parts per billion
ppt	Parts per trillion
ppm	Parts per million
PET	Photoinduced electron transfer
Q-TOF	Quadrupole time-of-flight
Q	Quartet

k_r	Radiative decay rate constant
RNA	Ribonucleic acid
RET	Resonance energy transfer
r.t.	Room temperature
J_λ	Spectral overlap integral
K_{SV}	Stern-Volmer quenching constant
s	Singlet
SDS	Sodium dodecyl sulfate
S-V	Stern-Volmer
Ser	Serine
2D	Two-dimensional
TLC	Thin layer chromatography
TMS	Tetramethylsilane
Ts	Toluenesulfonyl
t	Triplet
T	Tertiary
TCSPC	Time correlated single photon counting
TFA	Trifluoroacetic acid
THF	Tetrahydrofuran
TBHB	^{t}Butylhydroperoxide
TNP	2,4,6-Trinitrophenol
PCy_3	Tricyclohexylphosphine
TNP	2,4,6-Trinitrophenol
UV	Ultraviolet
v/v	Volume per volume
XRD	X-ray diffraction