

Abbreviations

Abbreviation	Unabbreviated names
acacH	acetylacetone; pentan-2,4-dione
acenH ₂	<i>N,N'</i> -ethylenebis(acetylacetoneimine); 4,9-dimethyl-5,8-diazadodeca-4,8-diene, 11-dione
ADP	adenosine 5'-diphosphate
alaH	alanine
ampy	2-(aminomethyl)pyridine
AOM	angular overlap model
atm	atmosphere
ATP	adenosine 5'-triphosphate
BINAP	2,2'-bis(diphenylphosphino)-1,1'-binaphthyl
bpy	2,2'-bipyridine
bppy	2,6-bis(pyrazol-1-yl)pyridine
Bu	butyl
^t Bu	<i>tert</i> -butyl; 2-methyl-2-propyl
Bz	benzyl
CASSCF	complete active-space self-consistent field
catH ₂	catechol
CD	circular dichroism
cht	cycloheptatriene
CI	configuration interaction
cod	cycloocta-1,5-diene
coe	cyclooctene
COSY	correlated spectroscopy
Cp	η^5 -cyclopentadienyl
Cp*	η^5 -pentamethylcyclopentadienyl
CT	charge transfer
CV	cyclic voltammogram
CVD	chemical vapour deposition
Cy(cy)	cyclohexyl
cyclam	1,4,8,11-tetraazacyclotetradecane
cysH	cysteine
dba	dibenzylideneacetone; 1,5-diphenylpenta-1,4-diene-3-one
DBU	1,8-diazabicyclo[5.4.0]undec-7-ene
dcpe	1,2-bis(dicyclohexylphosphino)ethane
de	diastereomeric excess

depe	1,2-bis(diethylphosphino)ethane
DFT	Density Functional Theory
dien	diethylenetriamine; bis(2-aminoethyl)amine; 1,4,7-triazaheptane
<i>R,R</i> -diop	(–)-2,3- <i>O</i> -isopropylidene-2,3-dihydroxy-1,4-bis(diphenylphosphino)butane
dmap	4-dimethylaminopyridine
dmbppy	2,6-bis(3,5-dimethylpyrazol-1-yl)-6-(pyrazol-1-yl)pyridine
dme	1,2-dimethoxyethane
dmf	<i>N,N</i> -dimethylformamide; <i>N,N</i> -dimethylmethanamide
dmgH ₂	dimethyl glyoxime
dmpe	1,2-bis(dimethylphosphino)ethane
dmpm	1,2-bis(dimethylphosphino)methane
dmso	dimethylsulfoxide
DNA	deoxyribose nucleic acid
DNMR	dynamic nuclear magnetic resonance
dpmp	bis {(diphenylphosphino)methyl}phenylphosphine
dppb	1,4-bis(diphenylphosphino)butane
dppe	1,2-bis(diphenylphosphino)ethane
dppf	1,1'-bis(diphenylphosphino)ferrocene
dppm	1,1-bis(diphenylphosphino)methane
dppp	1,3-bis(diphenylphosphino)propane
DTA	differential thermal analysis
dtc	dithiocarbamate
EBI	ethylenebisindenyl
EBTHI	ethylenebis(tetrahydroindenyl)
eddaH ₂	ethylenediamine- <i>N,N'</i> -diacetic acid; <i>N,N'</i> -bis(acetato)-1,2-diaminoethane
edtaH ₄	ethylenediaminetetraacetic acid; <i>N,N,N',N'</i> -tetrakis(acetato)-1,2-diaminoethane
e.e.	enantiomeric excess
EHMO	extended Hückel molecular orbital
EI-MS	electron impact mass spectroscopy
en	ethylenediamine; 1,2-diaminoethane
ENDOR	electron-nuclear double resonance
EPR	electron paramagnetic resonance
ESEEM	electron spin echo envelope modulation
ES-MS	electrospray mass spectroscopy
ESR	electron spin resonance
Et	ethyl
EXAFS	extended X-ray absorption fine structure
FAB	fast atom bombardment
Fc	ferrocene
fcc	face-centred cubic
flu	fluorenyl
FT	Fourier transform

glyH	glycine
HBpz ₃	hydridotris(pyrazolyl)borate
HBpz* ₃	hydridotris(3,5-dimethylpyrazolyl)borate
hfacH	hexafluoroacetylacetone
hisH	histidine
hmpa	hexamethylphosphoramide
hmpt	hexamethylphosphorous triamide
HOMO	highest occupied molecular orbital
HPLC	high performance liquid chromatography
imH(ImH)	imidazole
ind	indenyl
iqu	isoquinoline
IR	infrared
LC	ligand centred
leuH	leucine
LL	ligand-to-ligand
LMCT	ligand-to-metal charge transfer
LSIMS	liquid secondary negative ion mass spectrometry
LUMO	lowest unoccupied molecular orbital
MAO	methylalumoxane
MAS-NMR	magic angle spinning-nuclear magnetic resonance
MCD	magnetic circular dichroism
Me	methyl
3,5-Me ₂ pzH	3,5-dimethylpyrazole
4,4'-Me ₂ bpy	4,4'-dimethyl-2,2'-bipyridine
3,4,5-Me ₃ PzH	3,4,5-trimethylpyrazole
Mes	mesityl
MLCT	metal-to-ligand charge transfer
MO	molecular orbital
morph	morpholine
mqH	8-methylquinoline
MRCI	multi-reference configuration interaction
MS	mass spectrometry
MS-X α	multiple scattering X α
nbd	norbornadiene
NBS	N-bromosuccinimide
NHE	normal hydrogen electrode
nIR	near infra red
NMR	nuclear magnetic resonance
NOE	nuclear Overhauser effect
NOESY	nuclear Overhauser effect spectroscopy
Np	neopentyl
NQR	nuclear quadrupole resonance
nta(NTA)	nitrilotriacetic acid
Oe	Oersted

OEPH ₂	2,3,7,8,12,13,17,18-octaethylporphyrin
oxH ₂	oxalic acid; ethanedioic acid
pcH ₂	phthalocyanine
PE	photoelectron
Ph	phenyl
phen	1,10-phenanthroline
picH	picoline
pip	piperidine
pipz	piperazine
PM3	parametric method number 3
PPN	bis(triphenylphosphine)iminium(1 +)
ppyH	2-phenylpyridine
ⁿ Pr	<i>n</i> -propyl
ⁱ Pr	<i>iso</i> -propyl; 2-propyl
proH	proline
PTFE	polytetrafluoroethene
py	pyridine
pyrr	pyrrolidine
pzH	pyrazole
pz*H	3,5-dimethylpyrazole
qu	quinoline
RNA	ribose nucleic acid
RR	resonance Raman
SacacH	thioacetylacetone; 4-oxopentane-2-thione
SacSacH	dithioacetylacetate; pentane-2,4-dithione
salenH ₂	<i>N,N'</i> -ethylenebis(salicylideneimine)
salphenH ₂	<i>N,N'</i> -1,2-phenylenebis(salicylideneimine)
salpnH ₂	<i>N,N'</i> -1,2-propylenebis(salicylideneimine)
Salophen	<i>N,N'</i> -bis(salicylidene)- <i>O</i> -phenylenediamine
SCE	saturated calomel electrode
SCF	self-consistent field
SDS	Sodium dodecyl sulfate
sep	sepulchrates
serH	serine
SERRS	surface enhanced resonance Raman spectroscopy
SOD	superoxide dismutase
SQUID	superconducting quantum interference device
SSCE	saturated sodium calomel electrode
tacn	1,4,7-triazacyclononane
tartH ₂	tartaric acid
tcne	tetracyanoethene
tcnq	7,7,8,8-tetracyanoquinodimethane
terpy or tpy	2,2':6',2''-terpyridine
tfacenH ₂	<i>N,N'</i> -bis(trifluoroacetylacetoneimine); 1,1,1,12,12,12-hexafluoro-4,9-dimethyl-5,8-diazadodeca-4,8-diene-2,11-dione

TfOH	triflic acid
TGA	thermogravimetric analysis
TG-MS	thermogravimetry mass spectrometry
thf	tetrahydrofuran
tht	tetrahydrothiophene
tlc	thin layer chromatography
tmbppy	2,6-bis(3,5-dimethylpyrazol-1-yl)pyridine
tmeda	tetramethylethylenediamine; <i>N,N,N',N'</i> -tetramethyl-1,2-diaminoethane
TMPh ₂	5,10,15,20-tetramesitylporphyrin
TMpyPH ₂	5,10,15,20-tetrakis(1-methylpyridinium-4-yl)porphyrin
Tp	hydridotris(pyrazolyl)borate
Tp*	hydridotris(3,5-dimethylpyrazolyl)borate
TPCH ₂	tetraphenylchlorin
TPFPPH ₂	5,10,15,20-tetrakis(pentafluorophenyl)porphyrin
TPivPPH ₂	5,10,15,20-tetrakis($\alpha,\alpha,\alpha,\alpha$ - <i>o</i> -pivalamidophenyl)porphyrin
TPPH ₂ or tppH ₂	5,10,15,20-tetraphenylporphyrin
TPPSH ₂	5,10,15,20-tetrakis(4-sulfonatophenyl)porphyrin
TPyPH ₂	5,10,15,20-tetrakis(4-pyridyl)porphyrin
tren	<i>N,N,N</i> -tris(2-aminoethyl)amine
trien	1,4,7,10-tetraazadecane
triphos	1,1,1- <i>tris</i> (diphenylphosphinomethyl)ethane
tu	thiourea
UV	ultraviolet
UV–VIS	ultraviolet–visible
V	volt
valH	valine
vpy	4-vinylpyridine
W	Watts
XANES	X-ray absorption near-edge spectroscopy
XAS	X-ray absorption spectroscopy
XPS	X-ray photoelectron spectroscopy