

## Abbreviations

| Abbreviation       | Unabbreviated forms                   |                                                       |
|--------------------|---------------------------------------|-------------------------------------------------------|
| acacH              | acetylacetone                         | pentan-2,4-dione                                      |
| atm                | atmosphere                            |                                                       |
| bpy                | 2,2'-bipyridine                       |                                                       |
| cod                | cycloocta-1,5-diene                   |                                                       |
| Cp                 | $\eta^5$ -cyclopentadienyl            |                                                       |
| Cp*                | $\eta^5$ -pentamethylcyclopentadienyl |                                                       |
| CT                 | charge transfer                       |                                                       |
| cy                 | cyclohexyl                            |                                                       |
| dba                | dibenzylideneacetone                  | 1,5-diphenylpenta-1,4-diene-3-one                     |
| DBU                | 1,8-diazabicyclo[5.4.0]undec-7-ene    |                                                       |
| dmf                | <i>N,N</i> -dimethylformamide         | <i>N,N</i> -dimethylmethanamide                       |
| dma                | <i>N,N</i> -dimethylacetamide         |                                                       |
| dmgH <sub>2</sub>  | dimethylglyoxime                      |                                                       |
| dmpe               | 1,2-bis(dimethylphosphino)ethane      |                                                       |
| dmpm               | 1,2-bis(dimethylphosphino)methane     |                                                       |
| dmsO               | dimethylsulphoxide                    |                                                       |
| DNMR               | dynamic nuclear magnetic resonance    |                                                       |
| 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     |                                                       |
| dtc                | dithiocarbamate                       |                                                       |
| edtaH <sub>4</sub> | ethylenediaminetetraacetic acid       | <i>N,N,N',N'</i> -tetrakis(acetato)-1,2-diaminoethane |
| en                 | ethylenediamine                       | 1,2-diaminoethane                                     |
| ESR                | electron spin resonance               |                                                       |
| Et                 | ethyl                                 |                                                       |
| FAB                | fast atom bombardment                 |                                                       |
| hisH               | histidine                             |                                                       |
| iPr                | <i>iso</i> -propyl                    | 2-propyl                                              |
| IR                 | infra red                             |                                                       |
| Me                 | methyl                                |                                                       |

|                     |                                            |                                                |
|---------------------|--------------------------------------------|------------------------------------------------|
| morph               | morpholine                                 |                                                |
| mqH                 | 8-methylquinoline                          |                                                |
| nbd                 | norbornadiene                              |                                                |
| NMR                 | nuclear magnetic resonance                 |                                                |
| <sup>n</sup> Pr     | <i>n</i> -propyl                           |                                                |
| NQR                 | nuclear quadrupole resonance               |                                                |
| OEPH <sub>2</sub>   | octaethylporphyrin                         |                                                |
| oxH <sub>2</sub>    | oxalic acid                                | ethanedioic acid                               |
| PE                  | photoelectron                              |                                                |
| phen                | 1,10-phenanthroline                        |                                                |
| PPN                 | bis(triphenylphosphine)iminium(1+)         |                                                |
| ppyH                | 2-phenylpyridine                           |                                                |
| proH                | proline                                    |                                                |
| py                  | pyridine                                   |                                                |
| pyrr                | pyrrolidine                                |                                                |
| pz                  | pyrazine                                   |                                                |
| SacacH              | thioacetylacetone                          | 4-oxopentane-2-thione                          |
| SacSacH             | dithioacetylacetate                        | pentane-2,4-dithione                           |
| salenH <sub>2</sub> | <i>N,N'</i> -ethylenbis(salicylideneimine) |                                                |
| SCE                 | saturated calomel electrode                |                                                |
| <sup>t</sup> Bu     | <i>tert</i> -butyl                         | 2-methyl-2-propyl                              |
| terpy               | 2,2':6,2''-terpyridine                     |                                                |
| tpy                 | 2,2':6,2''-terpyridine                     |                                                |
| TGA                 | thermogravimetric analysis                 |                                                |
| thf                 | tetrahydrofuran                            |                                                |
| tht                 | tetrahydrothiophene                        |                                                |
| tned                | tetramethylethylenediamine                 | <i>N,N,N,N'</i> -tetramethyl-1,2-diaminoethane |
| TPPH <sub>2</sub>   | tetraphenylporphyrin                       |                                                |
| tren                | <i>N,N,N</i> -tris(2-aminoethyl)amine      |                                                |
| trien               | 1,4,7,10-tetraazadecane                    |                                                |
| triphos             | 1,1,1-tris(diphenylphosphinomethyl)ethane  |                                                |
| tu                  | thiourea                                   |                                                |
| UV                  | ultraviolet                                |                                                |
| UV-VIS              | ultraviolet-visible                        |                                                |
| V                   | volt                                       |                                                |
| XPS                 | X-ray photoelectron spectroscopy           |                                                |