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LIST OF ABBREVIATIONS

A	=	Adenine
Å	=	Angstrom
a.u.	=	Atomic Unit
ALAx	=	Along Axis
ApD	=	Apex-Down
ApH	=	Apex-Hollow
ApH	=	Apex-Bond
ApT	=	Apex-Top
ApU	=	Apex-Up
Au	=	Gold
Au NPs	=	Gold Nanoparticles
B3LYP	=	Becke 3-Parameter (Exchange), Lee, Yang and Parr (Correlation); Density Functional Theory
BsB	=	Basal-Bond
BsH	=	Basal-Hollow
BsT	=	Basal-Top
C	=	Cytosine
C	=	Carbon
cc-pVDZ	=	Correlation Consistence Polarized Valence Double Zeta
cc-pVTZ	=	Correlation Consistence Polarized Valence Triple Zeta
CMOS	=	Complementary Metal-Oxide Semiconductor
CNTs	=	Carbon Nanotubes
DFT	=	Density Functional Theory
DNA	=	Deoxy-ribo Nucleic Acid
Eb	=	Binding Energy
ECP	=	Effective Core Potential
eV	=	Electron Volt

LIST OF ABBREVIATIONS (Continued)

G	=	Gaunine
H	=	Hydrogen
HRTEM	=	High-Resolution Transmission Electron Microscopy
IP	=	In Plane
kcal/mol	=	kilocalorie per mol
MCH	=	Mercaptohexanol
MWCNTs	=	Multiwall Carbon Nanotubes
N	=	Nitrogen
nm	=	Nanometer
O	=	Oxygen
PBE	=	Perdew, Burke and Ernzerhof
PDAx	=	Perpendicular Axis
PP	=	Perpendicular Plane
qm	=	Mulliken Charge
RECP	=	Relativistic Effective Core Potential
RI	=	Resolution of the Identity
$Ru(bpy)_3^{2+}$	=	Tris(2,2'-bipyridyl) ruthenium(II)
SWCNTs	=	Single-wall Carbon Nanotubes
T	=	Thymine
TDP	=	Temperature-Programmed Desorption
TEM	=	Transmission Electron Microscopy
UV-Vis	=	Ultraviolet Visible
WC	=	Watson-Crick