LIST OF SYMBOLS AND ABBREVIATIONS

nm	-	nano metre
m	-	metre
FCC	-	face centred cubic
pH	-	hydrogen ion concentration
PXRD	-	powder X-ray diffraction
HRTEM	-	high resolution transmission electron microscope
SAED	-	selected area electron diffraction
SEM	-	scanning electron microscope
EDAX	-	energy dispersive X-ray analysis
FTIR	-	fourier transform infrared
UV-Vis	-	ultra violet - visible
VSM	-	vibrating sample magnetometer
Å	-	Armstrong
cm	-	centi metre
s	-	second
^{o}	-	degree
^{o}C	-	centigrade
X	-	concentration
G	-	gauss
CuK_{α}	-	copper K alpha
JCPDS	-	Joint Committee on Powder Diffraction Standards
FWHM, β	-	full width at half maximum
A	-	tetrahedral site
B	-	octahedral site
a	-	lattice constant
V	-	volume of unit cell
ρ_x	-	X-ray density

ρ_b	-	bulk density
P	-	porosity
L_A, L_B	-	hopping lengths
M	-	molecular weight of sample
N	-	Avogadro's number
m	-	mass of pellet
D, D_T, D_W	-	crystallite size
S	-	specific surface area
ρ_D	-	dislocation density
$\varepsilon_s, \varepsilon$	-	microstrain
θ	-	diffraction angle
g	-	gram
h	-	Planck's constant
c	-	velocity of light
λ	-	wavelength
W-H	-	Williamson-Hall
M-O	-	metal-oxygen
Fe-O	-	iron-oxygen
O-H	-	hydroxyl group
$\upsilon_1, \upsilon_2, \upsilon_3, \upsilon_4$	-	wavenumbers
eV	-	electron volt
α	-	absorption coefficient
ν	-	frequency
A	-	absorbance
t	-	thickness
I_o	-	intensity of reference beam
I	-	intensity of sample beam
n	-	refractive index
ε_∞	-	optical absorption coefficient
M_s	-	saturation magnetization

H_c	-	coercivity
M_r	-	retentivity
M_B	-	magnetic moment
emu	-	electromagnetic unit
μ_B	-	bohr magnetron
ε'	-	real part of dielectric constant
ε''	-	imaginary part of dielectric constant
C_p	-	capacitance of pelletized sample
C_0	-	capacitance of air medium
A	-	area of cross section of pellet
tan δ	-	dielectric loss
σ_{AC}	-	AC conductivity
AC	-	alternating current
σ_o	-	peak conductivity
K	-	Kelvin
f	-	frequency
Hz	-	hertz
KHz	-	kilo hertz
MHz	-	mega hertz
ε_0	-	permittivity of free space
F	-	farad
E_a	-	activation energy
T	-	temperature
K_B	-	Boltzmann constant
J	-	joule