

## LIST OF SYMBOLS, ABBREVIATIONS AND NOMENCLATURE

$\Delta G$	Change in free energy
N	Avagadro number
$\mu_{YAG}$	Chemical potential of Yttrium Aluminium Garnet
k	Boltzman constant
$\sigma$	interfacial tension
$i^*$	number of molecules in the critical nucleus
$\Delta G^*$	critical free energy
c	actual concentration
$c^*$	equilibrium concentration
$\theta$	contact angle
R	size of the nucleus
r	radius of the critical nucleus
$R^\circ$	growth rate
D	Diffusion coefficient
$a_s$	hard-sphere diameter
$\nu_{sy}$	symmetric stretching mode
$\nu_{as}$	asymmetric stretching mode
$\delta$	bending or deformation mode
YAG	Yttrium Aluminium Garnet
NAB	Neodymium Aluminium Borate
HTS	High Temperature Solution
DSC	Differential Scanning Calorimetry
TG	Thermo Gravimetry,
DTG	Differential thermo Gravimetry
EPMA	Electro Probe Micro Analysis
SEM	Scanning Electron Microscope