

LIST OF TABLES

Table 2.1 PbWO ₄ and PbWO ₄ :Ce prepared with different Lead Sources.....	32
Table 2.2 PbWO ₄ and PbWO ₄ :Ce prepared at different reaction conditions using Lead Chloride as a Lead Source.....	33
Table 3.1 Summary of reaction conditions to synthesize PbWO ₄ and PbWO ₄ : Ce using different Lead sources.....	46
Table 3.2 Summary of phase, lattice parameters, unit cell volume and average crystallite size of undoped and Cerium doped PbWO ₄	48
Table 3.3 PbWO ₄ and PbWO ₄ : Ce prepared at different reaction conditions using Lead chloride as a lead source.....	54
Table 3.4 PbWO ₄ prepared with different pH of reaction solution.....	55
Table 3.5 Summary of phase identified, lattice parameters, unit cell volume and average crystallite size of PbWO ₄ prepared at different pH.....	59
Table 3.6 PbWO ₄ synthesized at different reaction temperatures.....	60
Table 3.7 Summary of phase identified, lattice parameters, unit cell volume and average crystallite size of PbWO ₄ prepared at different Temperature.....	62
Table 3.8 PbWO ₄ :Ce synthesized at different reaction temperatures.....	66
Table 3.9 Summary of phase identified, lattice parameters, unit cell volume and average crystallite size of PbWO ₄ :Ce prepared at different Temperature.....	69
Table 4.0 Summary of phase identified, lattice parameters, unit cell volume and average crystallite size of undoped and Cerium doped PbWO ₄ prepared at different Temperature.....	76
Table 4.1 Summary of lattice parameter and atomic packing density of different lead sources.....	93
Table 4.2 Summary of morphologies and particle size of undoped and Cerium doped PbWO ₄ prepared using different Lead sources.....	105
Table 4.3 Summary of reaction conditions of undoped and Cerium doped PbWO ₄ samples selected for TEM analysis.....	106
Table 4.4 Summary of reaction conditions, phase, morphologies and particle size of undoped and Cerium doped PbWO ₄ prepared using different Lead chloride....	121

Table 5.1 Summary of Phase produced, Morphologies and Particle size of undoped and Cerium doped PbWO_4 prepared using different Lead sources.....	134
Table 5.2 The locations and Intensity of Gaussian components of PL spectra of PbWO_4 and PbWO_4 : Ce prepared at 100°C	142
Table 5.3 Summary of reaction conditions, phase, morphologies and particle size of undoped and Cerium doped PbWO_4 prepared using different Lead chloride....	146
Table 5.4 The locations and intensity of Gaussian components of PL spectra of PbWO_4 and PbWO_4 : Ce prepared at 200°C	151
Table 5.5 The locations and Intensity of Gaussian components of PL spectra of PbWO_4 samples prepared at different pH.....	157
Table 5.6 The locations and Intensity of Gaussian components of PL spectra of PbWO_4 samples prepared at different temperatures.....	163
Table 5.7 The locations and intensity of Gaussian components of PL spectra of PbWO_4 : Ce samples prepared at different temperatures.....	168