

List of Table

Table No	Table Caption	Page No
Table 1.1	Pros and Cons of different wastewater treatment techniques	4
Table 2.1	List of green route synthesized nanoparticles: Shape, size and application	27
Table 2.2	Summary of NPs synthesized by green route for photocatalytic application	33
Table 2.3	Nanocomposite membrane for pollutant removal.	39
Table 2.4	Removal Techniques and materials used for remediation of Cr(VI) from wastewater	45
Table 2.5	Use of photo-catalytic membranes for wastewater treatment	52
Table 3.1	Hanson solubility parameters of components	84
Table 3.2	Thermodynamic parameter for different membranes	99
Table 3.3	Kinetic parameter of the polymeric solution with different TiO ₂ loading.	101
Table 4.1	Roughness parameter of PVDF and its composite membrane	124
Table 4.2	Contact angle value of 3 different probe liquids	125
Table 4.3	Surface tension values (mJ m ⁻²) of 3 probe liquids	125
Table 4.4	The surface tension and surface free energy of membranes	127
Table 4.5	Comparison of the performance of inorganic-polymer nanocomposite membranes prepared in this work and those reported in the literature	135
Table 5.1	Values of K _s and R ² for composite membranes predicted using Hermia's fouling models	158
Table 6.1	CCD Experimental design of experiment matrix for Cr (VI) removal by PVDF/TiO ₂ membrane	169
Table 6.2	ANOVA summary for % rejection from CCD model	183
Table 6.3	ANOVA analysis for % reduction from CCD model	186
Table 6.4	Predicted and Experimental (Actual) value at optimized condition	188
Table 6.5	Comparative study of present study with published literature	194