

C O N T E N T S

	<u>Page</u>
<u>CHAPTER I</u>	
Section A : Introduction and Review of Previous Work	1
Section B : Ion Exchange Formulations	27
Section C : Exchange studies and selectivities of clay minerals, resins and molecular sieves.	40
<u>CHAPTER II</u>	
Scope and Object of the Work ..	53
<u>CHAPTER III</u>	
Experimental ..	58
<u>CHAPTER IV</u>	
Sorption and Desorption of diquat on bentonite system. ..	66
Section A: ..	67
(i) Sorption of diquat on H- bentonite.	
(ii) Sorption of diquat on Na-bentonite.	
Section B: ..	74
(i) Desorption of diquat from Na-bentonite-diquat complex.	
(ii) Desorption of diquat from H-bentonite-diquat complex.	

	<u>Page</u>
<u>CHAPTER V</u>	
Sorption and Desorption of diquat on Vermiculite system. ..	99
Section A : Sorption of diquat on Na-vermiculite ..	101
Section B : Desorption of diquat from Na-vermiculite-diquat complex	104
<u>CHAPTER VI</u>	
Sorption and Desorption of diquat on Na-Laponite system. ..	115
Section A : Sorption of diquat on Na-Laponite ..	117
Section B : Desorption of diquat from Na-Laponite-diquat complex	122
<u>CHAPTER VII</u>	
Sorption and Desorption of diquat on chlorite system. ..	132
Section A : Sorption of diquat on Na-chlorite ..	133
Section B : Desorption of diquat from Na-chlorite-diquat complex	136
<u>CHAPTER VIII</u>	
Sorption and Desorption of diquat on Na-IR-120 (Strong Cation Exchange Resin) system.	146
Section A : Sorption of diquat on Na-IR-120 ..	149
Section B : Desorption of diquat from Na-IR-120-diquat complex	150

	<u>Page</u>
<u>CHAPTER IX</u>	
Sorption and Desorption of diquat on Na-IRC-50 (Weak Cation Exchange Resin) system.	162
Section A : Sorption of diquat on Na-IRC-50 ..	164
Section B : Desorption of diquat from Na-IRC-50-diquat complex	165
<u>CHAPTER X</u>	
Sorption and Desorption of diquat on Na-Molecular Sieve-13X system ..	176
Section A: Sorption of diquat on Na-molecular sieve-13X	180
Section B: Desorption of diquat from Na-molecular sieve 13X-diquat complex.	183
<u>CHAPTER XI</u>	
Summary and Conclusion ..	193
References ..	213
