List of Tables

Table No.	Title	Page No.
1.1	Physical properties of [60]fullerene	7
1.2	Solubility of [60] fullerene in various solvents	19
3.1	Critical reverse micelle concentration, free energy, enthalpy,	
	and entropy of reverse micellelization of Span 60 in toluene-	
	[60]fullerene solution at 30°C and 40°C	61
3.2	Critical reverse micelle concentration, free energy, enthalpy,	
	and entropy of reverse micellelization of Brij 35 in toluene-	
	[60] fullerene solution at 30°C and 40°C	66
3.3(a)	Effect of variation of amount of cosurfactant on the nature of sol	ution68
3.3(b)	Effect of variation of amount of cosurfactant on the nature of sol	ution
	in presence of [60]fullerene	69
3.4(a)	Effect of variation of the surfactant Span 60 and cosurfactant qua	antity
	on the nature of solution	72
3.4(b)	Effect of variation of the surfactant Span 20 and cosurfactant qua	antity
	on the nature of solution	74
3.5	Structures of different non-ionic surfactants used in the present s	tudy75
3.6	Effect of variation of ratio of oil/cosurfactant on nature of solution	on81
3.7(a)	Solubility data of Toluene and water with Span 60+ Propanol, at	
	30°C	84
3.7(b)	Solubility data of [60] fullerene solution in Toluene and water w	ith
	Span 60+ Propanol, at 30°C	84
3.8(a)	Miscibility data of Toluene and water with surfactant Brij 35 +	
	Propanol at 30°C	86
3.8(b)	Miscibility data of C ₆₀ solution and water with surfactant Brij 35	i+
	Propanol at 30°C	86
3.9(a)	Miscibility data of toluene and water with surfactant Brij 98+	
	Propanol at 30°C	88

3.9(b)	Miscibility data of C ₆₀ solution and water with surfactant Brij		
	98+Propanol at 30°C88		
3.10(a)	Miscibility data of toluene and water with surfactant C ₁₂ E ₁₂ O at 30°C90		
3.10(b)	Miscibility data of C_{60} solution and water with surfactant $C_{12}E_{12}O$ at		
	30°C90		
3.11(a-1)	Solubility data of toluene and water with Span 60+Propanol, at 40°C93		
3.11(a-2)	Solubility data of [60] fullerene solution in toluene and water with Span		
	60+Propanol, at 40°C94		
3.11(b-1)	Solubility data of toluene and water with Span 60+Propanol, at 50°C95		
3.11(b-2)	Solubility data of [60] fullerene solution in toluene and water with		
	Span 60+Propanol, at 50°C96		
3.12(a)	Miscibility data of Toluene and water with surfactant Brij 35+		
	Propanol 40°C98		
3.12(b)	Miscibility data of C ₆₀ solution and water with surfactant Brij 35+		
	Propanol at 40°C99		
3.13(a)	Solubility data of Toluene and water with mixed surfactant Brij 35+		
	C ₁₂ E ₁₂ O at 30°C102		
3.13(b)	Solubility data of C ₆₀ solution and water with mixed surfactant Brij 35 +		
	C ₁₂ E ₁₂ O at 30°C102		
3.14	Summary of the monophasic and biphasic regions formed by the system		
	of C ₆₀ -Toluene-Water and surfactants at different temperatures104		