Table 1 : List of transitions frequencies of SF_6-Rg (Rg = Ar, Kr, Xe) hetero dimers assigned and used to simulate the rovibrational parallel and perpendicular band contours.

	E_i (eV)	$1/n_{eff}$		$\beta(Å^{-1})$
SF_6	15.7	1.0744		
Ne	21.565	1.2590	SF_6-Ne	4.411
Ar	15.760	1.0760	SF_6-Ar	4.065
Kr	14.000	1.0414	SF_6-Kr	3.949
Xe	12.130	0.9442	SF_6-Xe	3.816

Table 2: Ionization potential and effective principle quantum number for rare gases and SF_6 for calculating model repulsive forces and repulsive β parameters related to SF_6-Rg heterodimers

	C_6^{Rg-Rg} *calculated*				$C_6^{SF_6-Rg}$ *From combining rules (CR)*			$C_6^{SF_6-Rg}$ *CR (mean)*
	Tao	Vydrov	Kumar		Tao	Vydrov	Kumar	
Ne-Ne	7.33	6.35	6.38	SF_6-Ne	65.5	61.0	61.1	63.3(6)
Ar-Ar	67.7	64.42	64.30	SF_6-Ar	199.1	194.3	194.1	196.7(20)
Kr-Kr	133	130.1	129.6	SF_6-Kr	279.1	276.1	275.5	277.4(27)
Xe-Xe	296	-	285.9	SF_6-Xe	416.4	416.4	409.2	412.8(41)
SF_6-SF_6	-	585.8	-					

Table 3: $C_6^{SF_6-Rg}$ coefficients (in atomic units) derived from calculated C_6^{Rg-Rg} and $C_6^{SF_6-SF_6}$ coefficients and combining rules. CR mean values are obtained by averaging sets from three distinct studies.