

			γ_2^0	$\gamma_2^{\pm 2}$	γ_4^0	$\gamma_4^{\pm 2}$	$\gamma_4^{\pm 4}$
Ligand	θ_h	ϕ_h	$3 \cos^2 \theta_h - 1$	$\sin^2 \theta_h e^{\pm 2i\phi_h}$	$35 \cos^4 \theta_h - 30 \cos^2 \theta_h + 3$	$\sin^2 \theta_h (7 \cos^2 \theta_h - 1) e^{\pm 2i\phi_h}$	$\sin^4 \theta_h e^{\pm 4i\phi_h}$
1	$\pi/2$	0	-1	1	3	1	1
2	$\pi/2$	$\pi/2$	-1	-1	3	-1	1
3	$\pi/2$	π	-1	1	3	1	1
4	$\pi/2$	$3\pi/2$	-1	-1	3	-1	1
Sum			-4	0	12	0	4

Table 1.1: Contribution to the γ_k^q coefficients arising from the trigonometric functions contained in the spherical harmonics (second row) evaluated on the different ligands of the planar D_{4h} geometry. The sum over all the ligands is given in the last row. Normalization constants of the $Y_{k,q}(\theta_h, \phi_h)$ functions and numerical prefactors present in Eq. (1.43) are not considered for clarity.