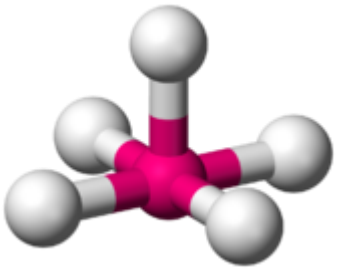
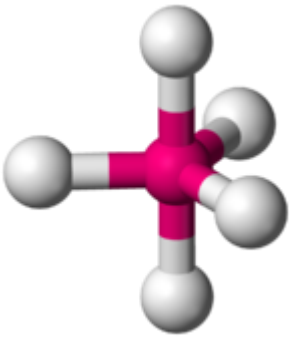
1. For five coordinate compounds, one can define a τ_5 parameter - Take the two largest valence (LML) angles in the compounds, such that $\beta > \alpha$:

$$\tau_5 = \frac{\beta - \alpha}{60°}$$

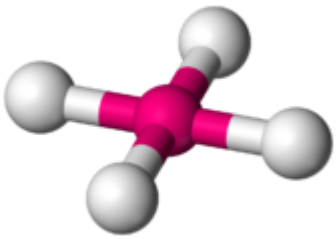
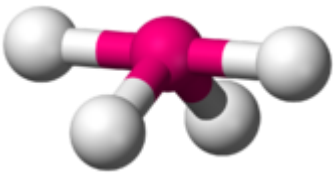
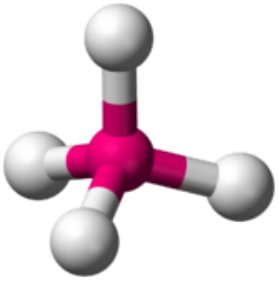
This value indicates if we are dealing with a square bipyramid ($\tau_5 = 0$), a triangular bipyramid ($\tau_5 = 1$), or something in between, closer to one or the other.

 Square pyramidal geometry $\beta = \alpha = \pi$ $\tau_5 = 0$	 Trigonal bipyramidal geometry $\beta = \pi, \alpha = \frac{2\pi}{3}$ $\tau_5 = 1$

For four coordinated compounds, the best parameter is

$$\tau_4' = \frac{\beta - \alpha}{360° - \theta} + \frac{180° - \beta}{180° - \theta}$$

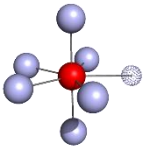
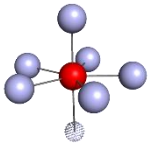
In this expression $\beta > \alpha$ are the two greatest valence angles of the coordination centre, and the interpretation is quite similar to the above one.

 Square planar geometry $\beta = \alpha = \pi$ $\tau_4 = \tau_4' = 0$	 Seesaw geometry $\beta = \pi, \alpha = \frac{2\pi}{3}$ $\tau_4' \approx 0.24, \tau_4 \approx 0.43$	 Tetrahedral geometry $\beta = \alpha \approx 109.5°$ $\tau_4 = \tau_4' = 1$

For six coordinated compounds, the most frequent, there is no way to "quantify" the geometry. So, I came up with a

$$\tau_6 = \frac{360 - (\alpha + \beta)}{360 - 2\theta}$$

where α and β are the largest angles in the geometry and θ is $\arccos\left(-\frac{5}{7}\right)$, which is one of the LML angles in the triangular prism. This gives the following values:

	Oct[a]	PBeq[a]	PBax[a]	TriP[a]
α[d)]	180	180	144	135.585[b)]
β [d)]	180	144	144	135.585
τ_6	0	0.4053	0.8105	1
				

Where the middle two geometries are pentagonal bipyramids, one missing an equatorial L atom and the other missing an axial L atom. I'm assuming that these 2 structures can be taken as midpoints in a transition from octahedral to trigonal prism by moving the atoms around.