

Supplementary Table 1. ZORA-DFT $^1K(X,Cl)_{iso}$ values for the triphenyl group-14 chlorides.^a

Compound	Relativistic Effects	FC	SD	PSO	DSO	(FC+SD)xPSO	Total
Ph ₃ CCl	Non-relativistic	-96.5	12.7	16.0	0.3	N/A	-67.6
	Scalar	-94.4	12.7	16.0	0.3	N/A	-65.4
	Scalar + Spin-orbit	-94.4	12.5	16.0	0.3	1.5	-64.2
Ph ₃ SiCl	Non-relativistic	-170.9	8.0	-25.6	0.2	N/A	-188.4
	Scalar	-167.5	8.0	-25.8	0.2	N/A	-185.1
	Scalar + Spin-orbit	-167.5	8.0	-25.8	0.2	2.1	-183.1
Ph ₃ GeCl	Non-relativistic	-406.5	27.5	-53.9	0.1	N/A	-432.8
	Scalar	-391.1	28.3	-54.0	0.1	N/A	-416.7
	Scalar + Spin-orbit	-391.2	28.8	-54.1	0.1	9.9	-406.4
Ph ₃ SnCl	Non-relativistic	-565.0	36.9	-107.3	0.1	N/A	-635.3
	Scalar	-668.0	41.6	-113.3	0.1	N/A	-739.5
	Scalar + Spin-orbit	-668.8	46.8	-114.0	0.1	28.1	-707.7
Ph ₃ PbCl	Non-relativistic	-735.1	75.7	-151.9	0.1	N/A	-811.2
	Scalar	-596.1	103.2	-181.8	0.1	N/A	-674.6
	Scalar + Spin-orbit	-626.3	158.8	-184.6	0.1	156.5	-495.5

^aAll values are in $10^{19} \text{ J}^2 \text{ T}^{-1}$.

Supplementary Table 2. ZORA-DFT $^1K(X,Cl)$ values for the triphenyl group-14 chlorides.^a

Compound	Relativistic Effects	SD+(FCxSD)	PSO	DSO	(FC+SD)xPSO	Total
Ph ₃ CCl	Non-relativistic	57.5	-28.1	6.8	N/A	36.2
	Scalar	57.6	-28.1	6.8	N/A	36.2
	Scalar + Spin-orbit	54.8	-28.1	6.8	-2.1	31.4
Ph ₃ SiCl	Non-relativistic	119.1	43.5	6.8	N/A	169.4
	Scalar	117.8	43.7	6.8	N/A	168.3
	Scalar + Spin-orbit	114.9	43.8	6.8	-3.0	162.4
Ph ₃ GeCl	Non-relativistic	227.1	96.0	11.3	N/A	334.3
	Scalar	214.2	96.2	11.3	N/A	321.7
	Scalar + Spin-orbit	201.8	96.4	11.2	-15.1	294.3
Ph ₃ SnCl	Non-relativistic	366.5	203.2	14.4	N/A	584.1
	Scalar	383.8	212.3	14.4	N/A	610.4
	Scalar + Spin-orbit	353.5	213.3	14.4	-45.5	535.7
Ph ₃ PbCl	Non-relativistic	481.0	269.7	18.9	N/A	769.7
	Scalar	103.0	312.5	19.1	N/A	434.6
	Scalar + Spin-orbit	32.9	316.4	17.3	-298.9	67.7

^aAll values are in $10^{19} \text{ J}^2 \text{ T}$.