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Table S1. Crystal data and structure refinement for $Ge_5Cl_{12}.GeCl_4$.

Molecular formula	$Cl_{16}Ge_6$
Formula weight	1002.74
Temperature	150(2) K
Wavelength	0.71073 Å
Crystal system, space group	cubic, F-43c (no. 219)
Unit cell dimensions	a = 17.43(4) Å α = 90 deg. b = 17.43(4) Å β = 90 deg. c = 17.43(4) Å γ = 90 deg.
Volume	5297(22) $Å^3$
Z, Calculated density	8, 2.515 Mg/m^3
Absorption coefficient	8.326 mm^{-1}
F(000)	3712
Crystal size	0.80 x 0.80 x 0.40 mm
Theta range for data collection	2.34 to 25.07 deg.
Index ranges	-20<=h<=14, -20<=k<=14, -20<=l<=20
Reflections collected / unique	4130 / 402 [R(int) = 0.1546]
Completeness to 2theta = 25.07	25.9%
Max. and min. transmission	1.000 and 0.291
Refinement method	Full-matrix least-squares on F^2
Data / restraints / parameters	402 / 0 / 18
Goodness-of-fit on F^2	1.236
Final R indices [F>4sigma(F)]	R1 = 0.0535, wR2 = 0.1133
R indices (all data)	R1 = 0.0558, wR2 = 0.1170
Absolute structure parameter	0.03(5)
Largest diff. peak and hole	0.749 and -2.016 $e.A^{-3}$

Table S2. Atomic coordinates and equivalent isotropic displacement parameters ($Å^2 \times 10^3$) for $Ge_5Cl_{12}.GeCl_4$.

[U(eq) is defined as one third of the trace of the orthogonalized Uij tensor].

	x	y	z	U(eq)
Ge(1)	0.5000	0.5000	1.0000	29.0(7)
Ge(2)	0.7500	0.7500	0.7500	25.8(6)
Ge(3)	0.83017(4)	0.66983(4)	0.83017(4)	26.2(5)
Cl(1)	0.56896(16)	0.56896(16)	0.93104(16)	79.8(17)
Cl(2)	0.76773(10)	0.63148(11)	0.92715(9)	43.2(5)

Table S3. Anisotropic displacement parameters ($Å^2 \times 10^3$) for $Ge_5Cl_{12}.GeCl_4$. The anisotropic displacement factor exponent takes the form: -2 pi^2 [h^2 a*^2 U11 + ... + 2 h k a* b* U12]

	U11	U22	U33	U23	U13	U12
Ge(1)	29(1)	29(1)	29(1)	0	0	0
Ge(2)	26(1)	26(1)	26(1)	0	0	0
Ge(3)	26(1)	26(1)	26(1)	1(1)	-1(1)	1(1)
Cl(1)	80(2)	80(2)	80(2)	25(1)	25(1)	-25(1)
Cl(2)	48(1)	50(1)	31(1)	7(1)	9(1)	-4(1)

Table S4. Bond lengths [Å] and angles [deg] for $Ge_5Cl_{12}.GeCl_4$.

Ge(1)-Cl(1)	2.082(7)
Ge(1)-Cl(1)#1	2.082(7)
Ge(1)-Cl(1)#2	2.082(7)
Ge(1)-Cl(1)#3	2.082(7)
Ge(2)-Ge(3)	2.420(6)
Ge(2)-Ge(3)#4	2.420(6)
Ge(2)-Ge(3)#5	2.420(6)
Ge(2)-Ge(3)#6	2.420(6)
Ge(3)-Cl(2)	2.119(5)
Ge(3)-Cl(2)#7	2.119(5)
Ge(3)-Cl(2)#8	2.119(5)
Cl(1)#1-Ge(1)-Cl(1)#2	109.5
Cl(1)#1-Ge(1)-Cl(1)#3	109.5
Cl(1)#2-Ge(1)-Cl(1)#3	109.5
Cl(1)#1-Ge(1)-Cl(1)	109.5
Cl(1)#2-Ge(1)-Cl(1)	109.5
Cl(1)#3-Ge(1)-Cl(1)	109.5
Ge(3)#4-Ge(2)-Ge(3)#5	109.5
Ge(3)#4-Ge(2)-Ge(3)#6	109.5
Ge(3)#5-Ge(2)-Ge(3)#6	109.5
Ge(3)#4-Ge(2)-Ge(3)	109.5
Ge(3)#5-Ge(2)-Ge(3)	109.5
Ge(3)#6-Ge(2)-Ge(3)	109.5
Cl(2)#7-Ge(3)-Cl(2)#8	108.67(6)
Cl(2)#7-Ge(3)-Cl(2)	108.67(6)
Cl(2)#8-Ge(3)-Cl(2)	108.67(6)
Cl(2)#7-Ge(3)-Ge(2)	110.26(6)
Cl(2)#8-Ge(3)-Ge(2)	110.26(6)
Cl(2)-Ge(3)-Ge(2)	110.26(6)

Symmetry transformations used to generate equivalent atoms:
#1 z-1/2,-x+1,-y+3/2 #2 y,z-1/2,x+1/2
#3 z-1/2,x,y+1/2 #4 y,-z+3/2,-x+3/2
#5 y,z,x #6 z,x,y #7 z,-x+3/2,-y+3/2
#8 -y+3/2,-z+3/2,x

[Note. More than the minimum number of bonds and angles are included to show the symmetry operations required]