Table S1. Crystallographic data for compounds **L**, **C$_1$**, **C$_2$** and **C$_3$**.

Crystal data

L	**C$_1$**	**C$_2$**	**C$_3$**
$C_{30}H_{24}O_4P_2$	$C_{42}H_{34}Cl_6O_4P_2Sn_2$	$C_{54}H_{44}Cl_4O_4P_2Sn_2$	$C_{66}H_{54}Cl_2O_4P_2Sn_2$
M_r = 510.43	M_r = 1114.75	M_r = 1198.01	M_r = 1281.31
Triclinic, *P -1*	Triclinic, *P -1*	Triclinic, *P -1*	Triclinic, *P -1*
Hall symbol: -P 1	Hall symbol: -P 1	Hall symbol: -P 1	Hall symbol: -P 1
a = 7.3668 (8) Å	*a* = 9.0016 (12) Å	*a* = 9.1485 (5) Å	*a* = 9.1301 (3) Å
b = 8.7106 (9) Å	*b* = 9.2252 (12) Å	*b* = 10.3271 (6) Å	*b* = 11.5145 (3) Å
c = 9.7905 (10) Å	*c* = 14.687 (2) Å	*c* = 13.8774 (8) Å	*c* = 14.8677 (4) Å
α = 91.328 (2)°	α = 78.123 (10)°	α = 84.115 (4)°	α = 85.9720 (10)°
β = 92.013 (2)°	β = 87.443 (11)°	β = 82.537 (4)°	β = 81.8120 (10)°
γ = 96.6198 (19)°	γ = 67.904 (10)°	γ = 81.294 (4)°	γ = 69.8930 (10)°
V = 623.44 (11) Å^3	*V* = 1105.1 (3) Å^3	*V* = 1280.42 (13) Å^3	*V* = 1452.41 (7) Å^3
Z = 1	*Z* = 1	*Z* = 1	*Z* = 1
F_{000} = 266	F_{000} = 550	F_{000} = 598	F_{000} = 646
D_x = 1.360 Mg m^{-3}	D_x = 1.675 Mg m^{-3}	D_x = 1.554 Mg m^{-3}	D_x = 1.465 Mg m^{-3}
Melting point: 480 K	Melting point: 470 K	Melting point: 465 K	Melting point: 445 K
Mo *K*α radiation λ = 0.71073 Å	Mo *K*α radiation λ = 0.71073 Å	Mo *K*α radiation λ = 0.71073 Å	Mo *K*α radiation λ = 0.71073 Å
Cell parameters from 2439 reflections	Cell parameters from 39486 reflections	Cell parameters from 16302 reflections	Cell parameters from 9852 reflections
θ = 2.4–30.0°	θ = 1.4–29.6°	θ = 2.0–29.6°	θ = 2.4–32.7°
μ = 0.21 mm^{-1}	μ = 1.61 mm^{-1}	μ = 1.29 mm^{-1}	μ = 1.06 mm^{-1}
T = 100.0 K	*T* = 292 (2) K	*T* = 292 (2) K	*T* = 100 (2) K
Prism, colourless	Platelet, colourless	Prism, colourless	Prism, colourless
0.21 × 0.19 × 0.17 mm	0.50 × 0.33 × 0.10 mm	0.47 × 0.17 × 0.08 mm	0.24 × 0.18 × 0.15 mm

Data collection

L	**C$_1$**	**C$_2$**	**C$_3$**
Bruker SMART APEX II CCD	STOE IPDS 2	STOE IPDS 2	Bruker APEX-II CCD

area detector diffractometer	diffractometer	diffractometer	diffractometer
Monochromator: graphite	Monochromator: plane graphite	Monochromator: plane graphite	Monochromator: graphite
Detector resolution: 8 pixels mm^{-1}	Detector resolution: 6.67 pixels mm^{-1}	Detector resolution: 6.67 pixels mm^{-1}	Detector resolution: ? pixels mm^{-1}
T = 100.0 K	T = 292 K	T = 292 K	T = 100(2) K
ω and φ scans	rotation method scans	rotation method scans	φ and ω scans
Absorption correction: multi-scan SADABS-2008/1 (Bruker,2008) was used for absorption correction. R(int) was 0.0605 before and 0.0500 after correction. The Ratio of minimum to maximum transmission is 0.8846. The λ/2 correction factor is 0.0015.	Absorption correction: integration Stoe XRed32 1.31, Stoe (2005)	Absorption correction: integration Stoe XRed32 1.31, Stoe (2005)	Absorption correction: multi-scan SADABS (Sheldrick, 2003)
T_{min} = 0.763, T_{max} = 0.862	T_{min} = 0.509, T_{max} = 0.840	T_{min} = 0.6394, T_{max} = 0.9157	T_{min} = 0.786, T_{max} = 0.858
8072 measured reflections	20691 measured reflections	12460 measured reflections	19148 measured reflections
3670 independent reflections	5948 independent reflections	6350 independent reflections	8447 independent reflections
2930 reflections with $I > 2\sigma(I)$	5340 reflections with $I > 2\sigma(I)$	5603 reflections with $I > 2\sigma(I)$	7960 reflections with $I > 2\sigma(I)$
R_{int} = 0.045	R_{int} = 0.029	R_{int} = 0.041	R_{int} = 0.014
θ_{max} = 30.2°	θ_{max} = 29.6°	θ_{max} = 29.1°	θ_{max} = 30.0°
θ_{min} = 2.1°	θ_{min} = 2.4°	θ_{min} = 2.0°	θ_{min} = 1.9°
h = −10→10	h = −12→11	h = −12→12	h = −12→12
k = −12→12	k = −11→12	k = −14→13	k = −16→16
l = −13→13	l = −20→20	l = −18→18	l = −20→20

Refinement

L	**C_1**	**C_2**	**C_3**
Refinement on F^2	Refinement on F^2	Refinement on F^2	Refinement on F^2
Least-squares matrix: full	Least-squares matrix: full	Least-squares matrix: full	Least-squares matrix: full

$R[F^2 > 2\sigma(F^2)] = 0.047$	$R[F^2 > 2\sigma(F^2)] = 0.023$	$R[F^2 > 2\sigma(F^2)] = 0.025$	$R[F^2 > 2\sigma(F^2)] = 0.018$
$wR(F^2) = 0.108$	$wR(F^2) = 0.069$	$wR(F^2) = 0.057$	$wR(F^2) = 0.047$
$S = 1.03$	$S = 1.15$	$S = 1.06$	$S = 1.00$
3670 reflections	5948 reflections	6350 reflections	8447 reflections
163 parameters	254 parameters	298 parameters	343 parameters
Primary atom site location: structure-invariant direct methods	Primary atom site location: ?	Primary atom site location: ?	Primary atom site location: structure-invariant direct methods
Hydrogen site location: inferred from neighbouring sites	Hydrogen site location: inferred from neighbouring sites	Hydrogen site location: inferred from neighbouring sites	Hydrogen site location: inferred from neighbouring sites
H-atom parameters constrained	H-atom parameters constrained	H-atom parameters constrained	H-atom parameters constrained
$w = 1/[\sigma^2(F_o^2) + (0.0384P)^2 + 0.2322P]$ where $P = (F_o^2 + 2F_c^2)/3$	$w = 1/[\sigma^2(F_o^2) + (0.0391P)^2 + 0.1785P]$ where $P = (F_o^2 + 2F_c^2)/3$	$w = 1/[\sigma^2(F_o^2) + (0.0341P)^2]$ where $P = (F_o^2 + 2F_c^2)/3$	$w = 1/[\sigma^2(F_o^2) + (0.0226P)^2 + 0.76P]$ where $P = (F_o^2 + 2F_c^2)/3$
$(\Delta/\sigma)_{max} < 0.001$	$(\Delta/\sigma)_{max} = 0.001$	$(\Delta/\sigma)_{max} = 0.004$	$(\Delta/\sigma)_{max} = 0.001$
$\Delta\rho_{max} = 0.47$ e Å^{-3}	$\Delta\rho_{max} = 0.49$ e Å^{-3}	$\Delta\rho_{max} = 1.22$ e Å^{-3}	$\Delta\rho_{max} = 0.54$ e Å^{-3}
$\Delta\rho_{min} = -0.47$ e Å^{-3}	$\Delta\rho_{min} = -0.50$ e Å^{-3}	$\Delta\rho_{min} = -0.66$ e Å^{-3}	$\Delta\rho_{min} = -0.54$ e Å^{-3}
Extinction correction: none	Extinction correction: SHELXL-2014/7 (Sheldrick 2014, $Fc^*=kFc[1+0.001xFc^2\lambda^3/\sin(2\theta)]^{-1/4}$	Extinction correction: none	Extinction correction: none