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Supporting Information

Reactivity studies of group 15 Zintl ions towards homoleptic post-transition metal organometallics: a 'bottom-up' approach to bimetallic molecular alloys

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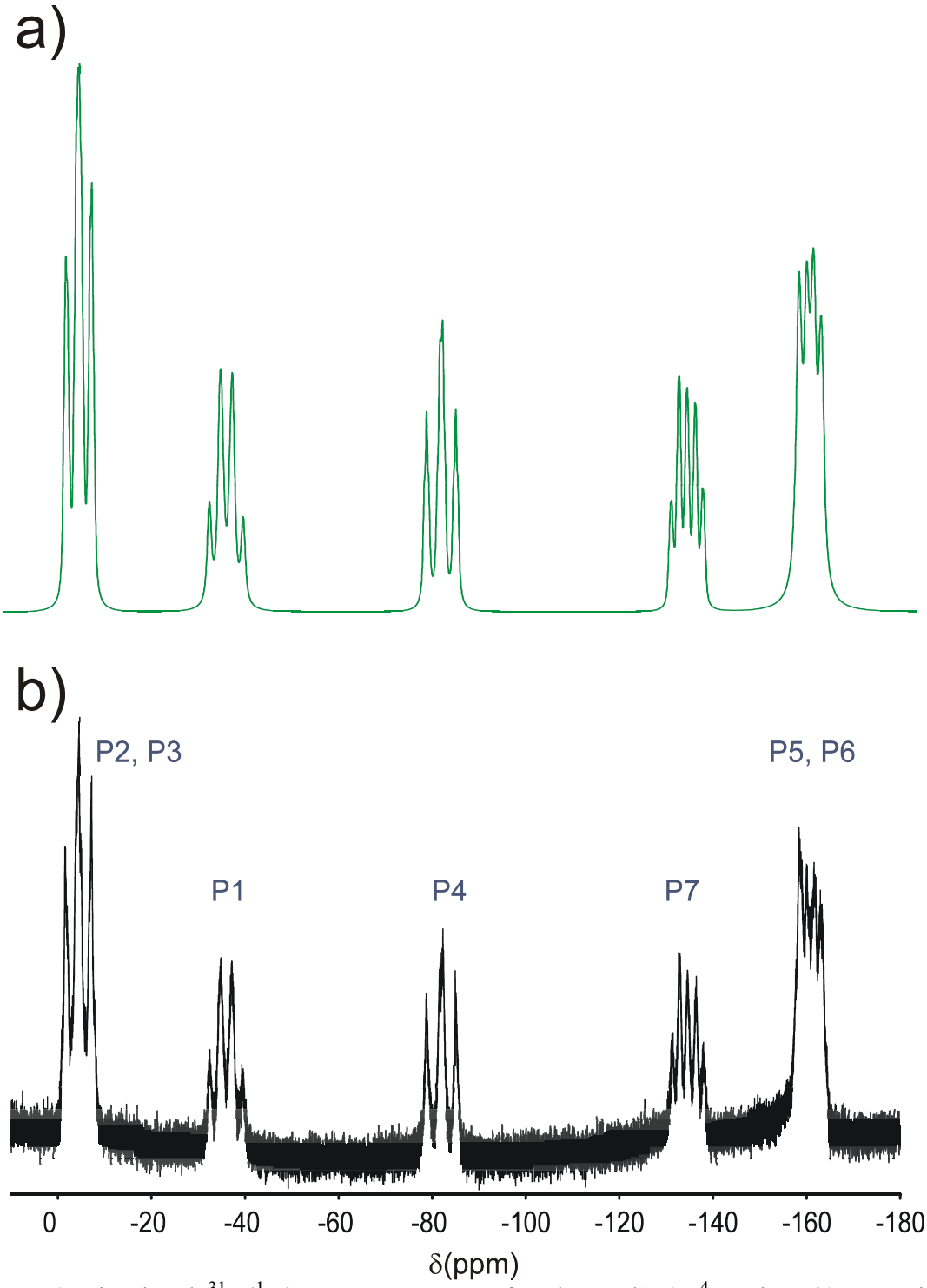

Figure S1. a) Simulated $^{31}P\{^{1}H\}$ NMR spectrum for the $[Cd(P_7)_2]^{4-}$ anion. b) Experimentally recorded $^{31}P\{^{1}H\}$ NMR spectrum of a d_5-pyridine solution of sample **5**. Resonances are labeled with the same numbering scheme employed in Figure 4.

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Table S1. ^{31}P - ^{31}P NMR coupling constants [Hz] taken from the $^{31}P\{^{1}H\}$ NMR spectrum of the $[Cd(P_7)_2]^{4-}$ anion.

δ(ppm)		−36.0	−4.5	−4.5	−82.1	−161.0	−161.0	−134.7
		P1	***P2***	***P3***	***P4***	***P5***	***P6***	***P7***
−36.0	***P1***	-	273	273	337	27	27	−31
−4.5	***P2***	273	-	31	−60	377	42	−47
−4.5	***P3***	273	31	-	−60	42	377	−47
−82.1	***P4***	337	−60	−60	-	−5	−5	425
−161.0	***P5***	27	377	42	−5	-	−17	203
−161.0	***P6***	27	42	377	−5	−17	-	203
−134.8	***P7***	−31	−47	−47	425	203	203	-

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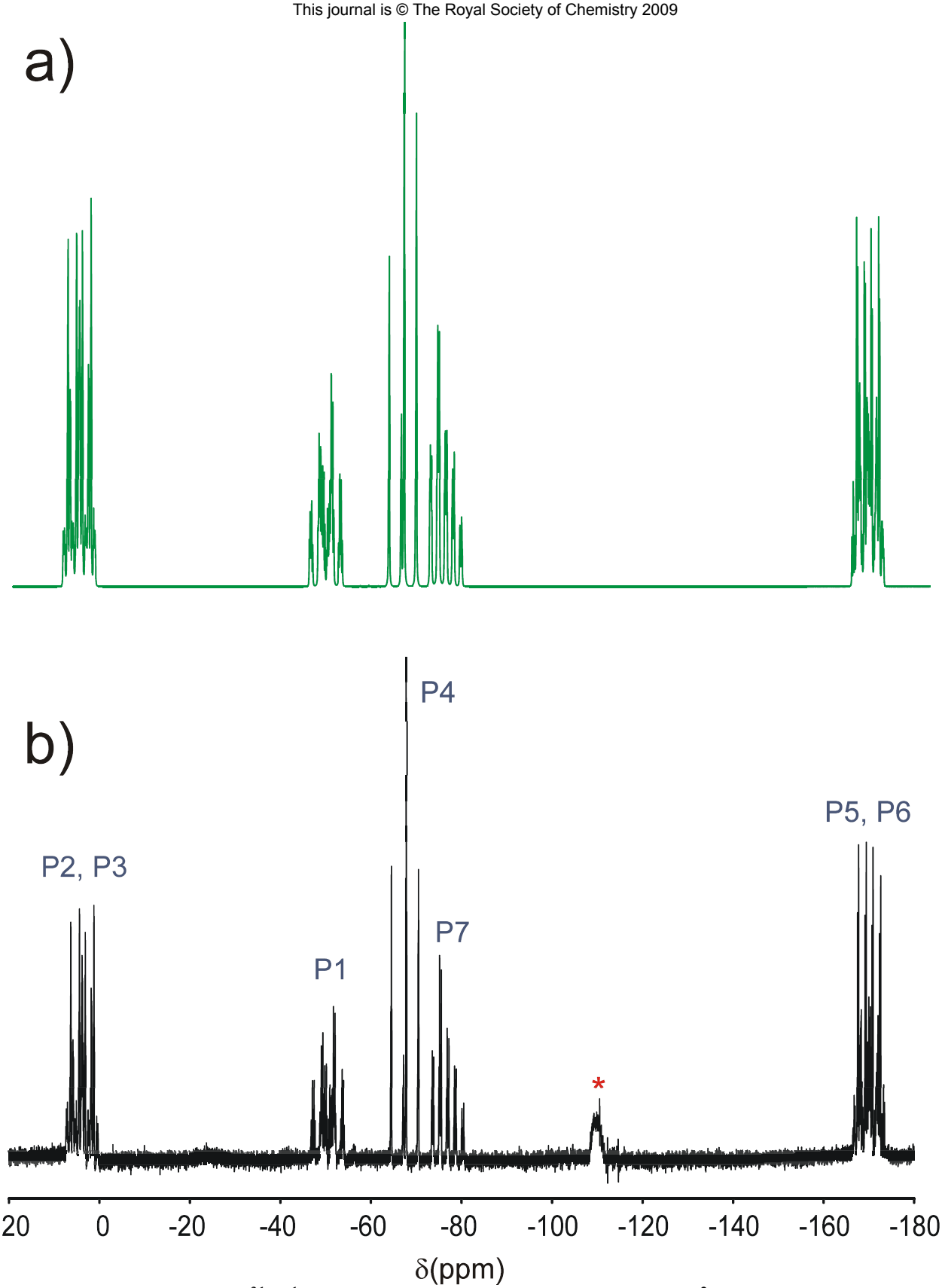

Figure S2. a) Simulated $^{31}P\{^{1}H\}$ NMR spectrum for the $[P_7In(C_6H_5)_2]^{2-}$ anion. b) Experimentally recorded $^{31}P\{^{1}H\}$ NMR spectrum of a d_5-pyridine solution of sample **6**. Resonances are labeled with the same numbering scheme employed in Figure 5. Resonance highlighted with an asterisk corresponds to trance amounts of P_7^{3-} impurity.

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Table S2. ^{31}P - ^{31}P NMR coupling constants [Hz] taken from the $^{31}P\{^{1}H\}$ NMR spectrum of the $[P_7In(C_6H_5)_2]^{2-}$ anion.

δ(ppm)		−50.7	3.6	3.6	−67.8	−170.1	−170.1	−76.8
		P1	***P2***	***P3***	***P4***	***P5***	***P6***	***P7***
−50.7	***P1***	-	234	234	339	28	28	−61
3.6	***P2***	234	-	−162	−14	387	0	14
3.6	***P3***	234	−162	-	−14	0	387	14
−67.8	***P4***	339	−14	−14	-	−5	−5	405
−170.1	***P5***	28	387	0	−5	-	−26	210
−170.1	***P6***	28	0	387	−5	−26	-	210
−76.8	***P7***	−61	14	14	405	210	210	-