

The Influence of pH and Counter Anion on the Structure of Tropolonato-Lead(II) Complexes. Structural and Infrared Characterization of Formed Lead Compounds

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Supporting Information

Legends

Table S1. IR Frequencies (cm^{-1}) for Tropolonato-lead Complexes.

Fig. S1 IR spectrum of solid $[\text{Pb}(\text{trop})(\text{CF}_3\text{SO}_3)(\text{H}_2\text{O})]_n$ (**1**) (a – KBr pellet, b – CsI pellet).

Fig. S2 IR spectrum of solid $[\text{Pb}_3(\text{trop})_4(\text{ClO}_4)_2]_n$ (**2**) (a – KBr pellet, b – CsI pellet).

Fig. S3 IR spectrum of solid $[\text{Pb}_2(\text{trop})_2(\text{NO}_3)_2(\text{CH}_3\text{OH})]_n$ (**3**) (KBr pellet).

Fig. S4 IR spectrum of solid $[\text{Pb}(\text{trop})_2]_2$ (**4**) (a – KBr pellet, b – CsI pellet).

Fig. S5 IR spectrum of solid $\text{Pb}(\text{trop})_4$ (**5**) (a – KBr pellet, b – CsI pellet).

Table S1. IR Frequencies (cm⁻¹) for Tropolonato-lead Complexes

(1)	(2)	(3)	(4)	(5)	tentative assignments ^a
210	228		206	202	δ (O–Pb–O)
236				239	δ (O–Pb–O)
				344	
			380	370	δ ring
	385		396	405sh	δ ring
406 vw	406 vw	408 vw	409 vw	414 vw	δ ring
	422 vw				
495 vw	492 vw	504 vw, br	497 w	493 vw, br	ν (Pb–O)
517	522 vw	518 vw	513 vw	534 vw, br	ν (Pb–O)
517					CF ₃ SO ₃ ⁻ : δ_{as} (CF ₃) ^b
575 vw					CF ₃ SO ₃ ⁻ : δ_{as} (SO ₃) ^b
	565 vw, br	570 vw, br	583 vw, br		
	621 w				δ (ClO ₄) ^c
	637 sh				δ (ClO ₄) ^c
637 m					CF ₃ SO ₃ ⁻ : δ_s (SO ₃) ^b
699 w	702 m	700 vw	696 vw	702 sh	
725 m	723 m	725 m	730 sh, vw		δ (CH)
738 sh	738 m	748 w	737 m	734 m, br	δ (CH)
		761 w	761 sh, vw		
		817 vw			ν_a (NO ₃) ^c
877 w	877 w	876 w	875 w	876 w	ν (C–C) + δ (CH)
			908 vw		
			915 vw		
923 vw	928 vw	929 vw	936 vw	921 vw	ν (C–C) + δ (CH)
977 vw	977 vw	976 vw	973 vw	974 vw	ν (C–C) + δ (CH)
	1007 vw		1007 vw		ν (C–C) + δ (CH)
1029 m					CF ₃ SO ₃ ⁻ : ν_{as} (SO ₃) ^b
		1018 w			CH ₃ OH: ν (C–O)
		1031 vw			
	~1072 sh				ν_{as} (ClO ₄) ^c
	1089 s				ν_{as} (ClO ₄) ^c
	~1122 sh				ν_{as} (ClO ₄) ^c
	1144 sh, m				ν_{as} (ClO ₄) ^c
1166 m					CF ₃ SO ₃ ⁻ : ν_{as} (CF ₃) ^b
			1218 m	1178 w	
1224 s	1221 s	1222 m	1227 s	1227 m	δ (CH)
	1237 vw	1233 vw	1238 vw		δ (CH)
1254 s					CF ₃ SO ₃ ⁻ : ν_s (CF ₃) ^b
~1276 sh					CF ₃ SO ₃ ⁻ : ν_{as} (SO ₃) ^b
	1262 m	1256 m	1259 w	1263 sh, m	δ (CH)
		~1298 sh			
	1315 s	1319 sh			
	1335 sh				ν (C–O)
1354 s	1354 vs	1358 vs	1341 s	1356 s	ν (C–O)
		1383 vs			ν_{as} (NO ₃) ^c
			1407 sh		
1424 vs	1423 vs	1427 vs	1421 s	1419 vs	δ (CH) + ν (C–C)
1469 vw	1469 vw	1470 vw		1471 vw	
1502 vs	1503 vs	1503 vs	1503 vs	1504 s	ν (C–O) + ν (C–C)
			1566 vw	1545 vw	
1592 s	1593 s	1592 s	1591 s	1590 s	ν (C–O) + ν (C–C)
	2998 vw		3039 vw	3040 vw	ν (CH)

^a Based on ref. 56 and 55. ^b Reference 57b. ^c Reference 57a and 58.

Fig. S1

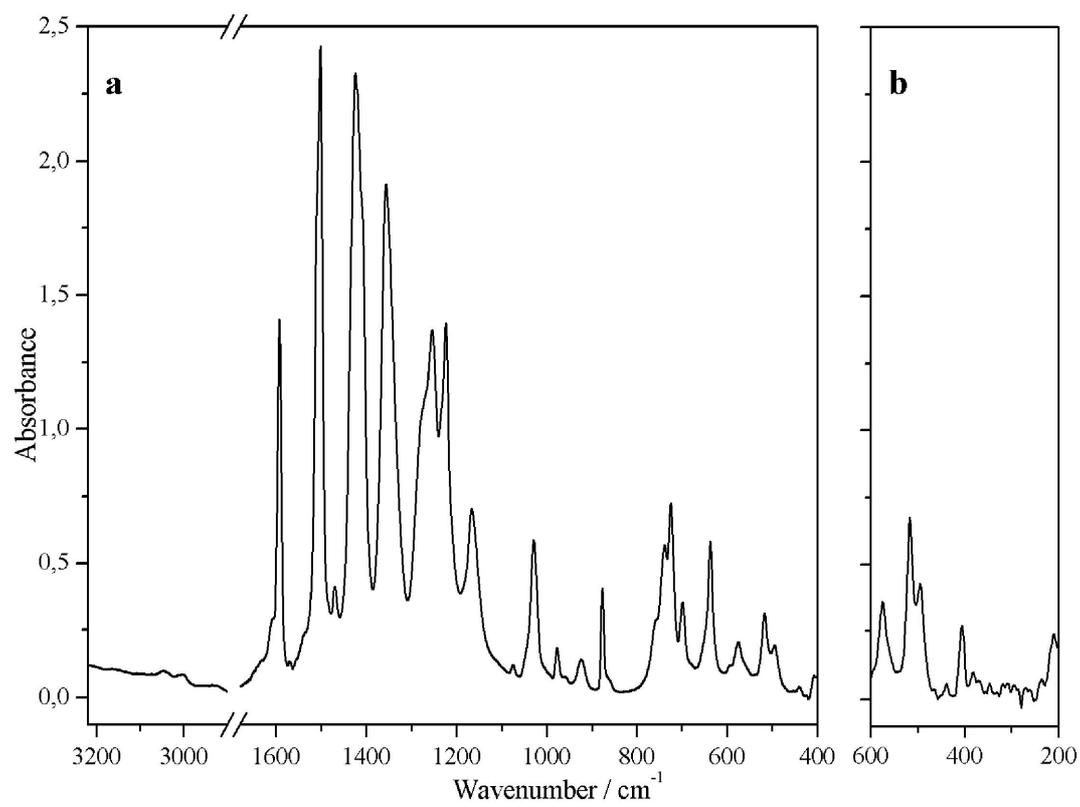


Fig. S2

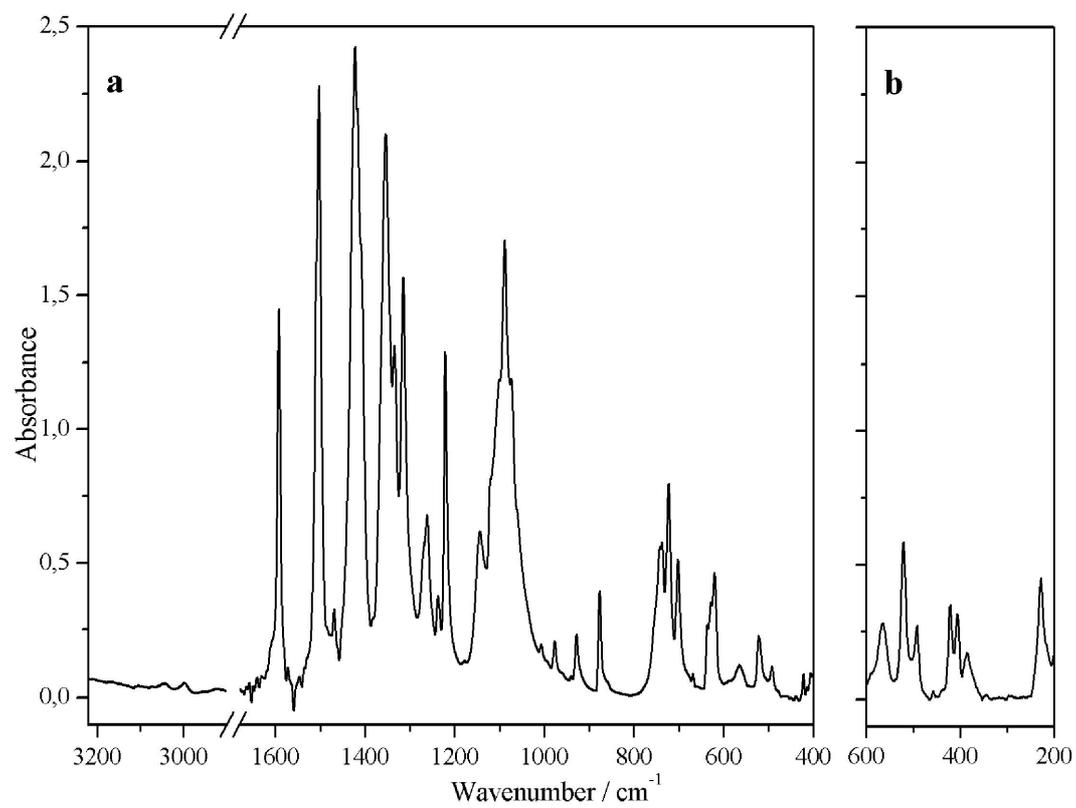


Fig. S3

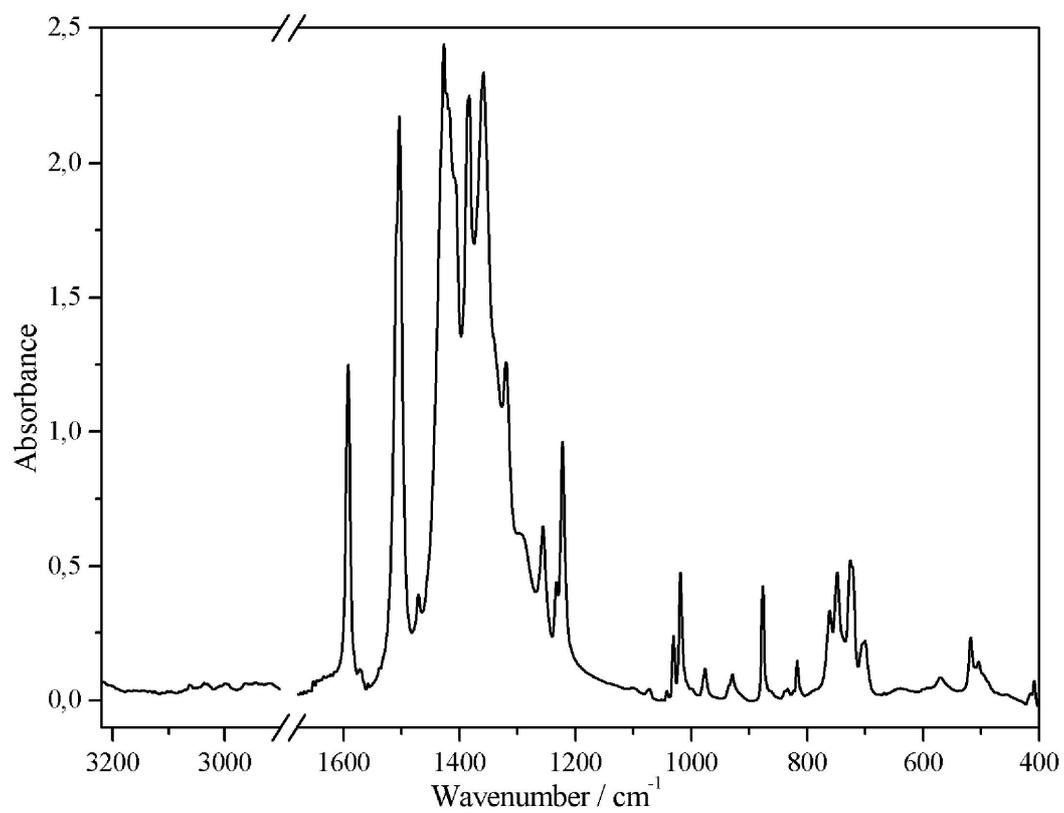


Fig. S4

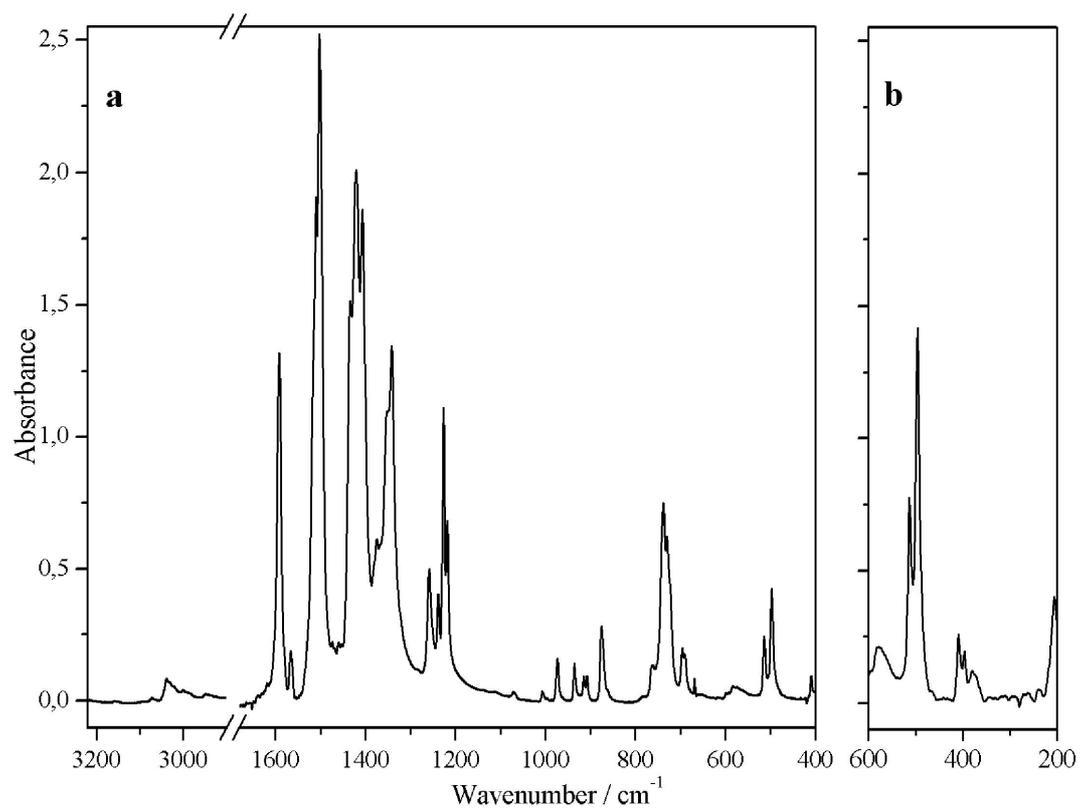


Fig. S5

