

The Structure of Pb(II) Ion in Hyper-Alkaline Aqueous Solution

Éva G. Bajnóczi,^{a,f} István Pálinkó,^{b,f} Tamás Körtvélyesi,^c Szabolcs Bálint,^d Imre Bakó,^d Pál Sipos,^{a,f,*}
and Ingmar Persson^{e,*}

^a Department of Inorganic and Analytical Chemistry, University of Szeged, H-6720 Dóm tér 7., Szeged, Hungary.

^b Department of Organic Chemistry, University of Szeged, H-6720 Dóm tér 8., Szeged, Hungary.

^c Department of Physical Chemistry and Materials Science, University of Szeged, H-6720 Aradi vértanúk tere 1., Szeged, Hungary

^d Institute of Molecular Pharmacology, Research Centre for Natural Sciences, Hungarian Academy of Sciences, Pusztaszeri út 59-67, H-1025 Budapest, Hungary

^e Department of Chemistry and Biotechnology, Swedish University of Agricultural Sciences, SE-750 07, Uppsala, Sweden

^f Materials and Solution Structure Research Group, Institute of Chemistry, University of Szeged H-6720 Aradi vértanúk tere 1., Szeged, Hungary

Electronic Supplementary Information

Table S1 The oxygen coordinated lead(II) structures used for determine the coordination number – Pb-O distance relationship for coordination number = 2, 3, 4, 5, 6, 8. The list is based on the data collected from the Inorganic Crystal Structure Database (ICSD) and the Cambridge Structural Database (CSD); *N* = coordination number; references marked in red text are omitted from the mean bond distance and angle. All the other structural data are listed in reference 4.

<i>N</i>	CSD code	<i>d</i> _{Pb-O}	∠O-Pb-O	Reference
2	VEYKUH	2.189 Å	100.6 °	Rekken, B. D.; Brown, T. M.; Olmstead, M. M.; Fettingner, J. C.; Power, P. P. <i>Inorg. Chem.</i> 2013 , 52, 3054.
	Mean	2.189 Å/1		
3	QAHVOL	2.216 Å	86.5 °	Nehete, U. N.; Chandrasekhar, V.; Jancik, V.; Roesky, H. W.; Herbst-Irmer, R. <i>Organometallics</i> 2004 , 23, 5372-5374.
3	QEXVUL	2.244 Å	77.7 °	Abakumov, G. A.; Cherkasov, V. K.; Piskunov, A.V.; Lado, A. V.; Fukin, G. K.; Abakumova, L. G. <i>Izv. Akad. Nauk SSSR, Ser. Khim.</i> 2006 , 1103-1111.
3	OLAZAD	2.289 Å	82.9 °	Mauck, C. M.; van den Heuvel, T. W. P.; Hull, M. M.; Zeller, M.; Oertel, C. M. <i>Inorg. Chem.</i> 2010 , 49, 10736-10743.
3	NIPKAY	2.291 Å	78.3 °	Parr, J.; Ross, A. T.; Slawin, A. M. Z. <i>Polyhedron</i> 1997 , 16, 2765-2770.
3	MAJGOT	2.299 Å	83.2 °	van Zandt, W.; Huffman, J. C.; Stewart, J. L. <i>Main Group Met. Chem.</i> 1998 , 21, 237-240.
3	MUKYIA	2.303 Å	77.1 °	Yu-Jun Shi; Yan Xu; Xue-Tai Chen; Ziling Xue; Xiao-Zeng You <i>Eur. J. Inorg. Chem.</i> 2002 , 3210-3213.
3	QEXVUL	2.304 Å	83.9 °	Abakumov, G. A.; Cherkasov, V. K.; Piskunov, A.V.; Lado, A. V.; Fukin, G. K.; Abakumova, L. G. <i>Izv. Akad. Nauk SSSR, Ser. Khim.</i> 2006 , 1103-1111.
3	QEKZAI	2.308 Å	78.5 °	Oldag, T.; Keller, H.-L. <i>Z. Anorg. Allg. Chem.</i> 2006 , 632, 1267-1272.
3	MAJGOT	2.325 Å	84.5 °	van Zandt, W.; Huffman, J. C.; Stewart, J. L. <i>Main Group Met. Chem.</i> 1998 , 21, 237-240.
3	NIPJUR	2.340 Å	75.1 °	Parr, J.; Ross, A. T.; Slawin, A. M. Z. <i>Polyhedron</i> 1997 , 16, 2765-2770.
3	NIPJOL	2.359 Å	78.4 °	Parr, J.; Ross, A. T.; Slawin, A. M. Z. <i>Polyhedron</i> 1997 , 16, 2765-2770.
3	QEKYUB01	2.361 Å	77.5 °	Oldag, T.; Keller, H.-L. <i>Z. Anorg. Allg. Chem.</i> 2006 , 632, 1267-1272.
3	BIBTIQ	2.464 Å	81.9 °	Naumov, P.; Cakir, S.; Bulut, I.; Bicer, E.; Cakir, O.; Jovanovski, G.; Ibrahim, A. R.; Usman, A.; Fun, H.-K.; Chantrapromma, S.; Ng, S. W. <i>Main Group Met. Chem.</i> 2002 , 25, 175-176.
	Average	2.318 Å	79.9 °/10 structures	

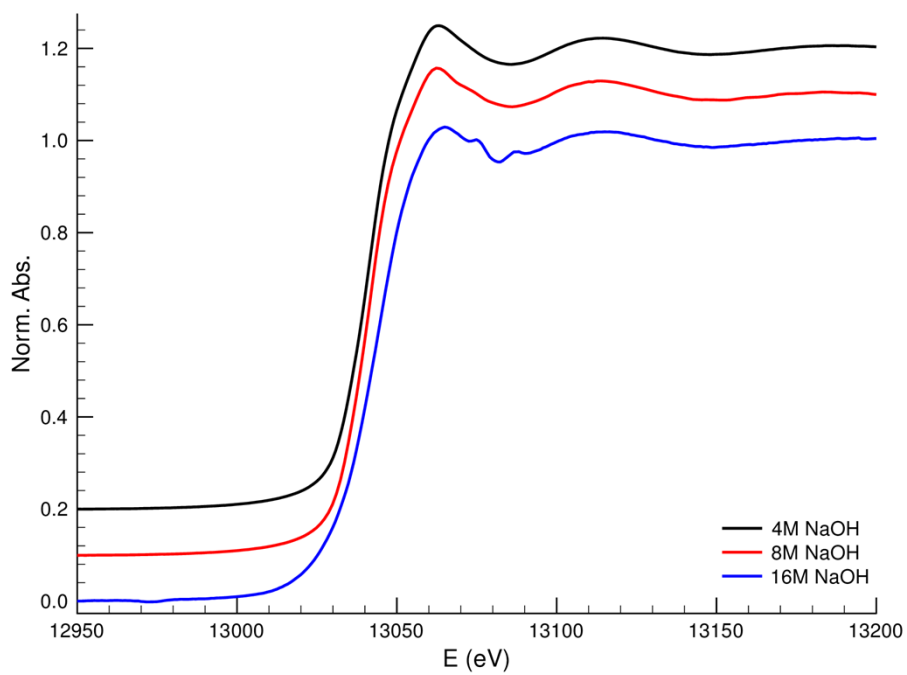


Fig. S1. L3 absorption edges of the trihydroxidoplumate(II) complex in 4, 8 and 16 mol·dm⁻³ sodium hydroxide aqueous solutions; offsets are 0.2, 0.1 and no offset, respectively.