Table 18: Pb^{2+}-Selective Electrodes

ionophore	membrane composition	$\lg K_{Pb^{2+},B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/ decade)	linear range (M)	remarks	ref.
Pb^{2+}-1	**Pb^{2+}-1** (w = 1 %), oNPOE (w = 66 %), PVC (w = 33 %)	Ca^{2+}, –2.40; Sr^{2+}, –2.49; Co^{2+}, –2.60; Ni^{2+}, –2.40; Cu^{2+}, –1.80; Zn^{2+}, –2.10; Cd^{2+}, –2.49	SSM	0.001	0.001	31	4×10^{-6} – 3×10^{-3}	25.0 ± 0.1 °C	[1]
	Pb^{2+}-1 (w = 1 %), DOP (w = 66 %), PVC (w = 33 %)	Ca^{2+}, –2.10; Sr^{2+}, –2.41; Co^{2+}, –2.80; Ni^{2+}, –2.39; Cu^{2+}, –1.08; Zn^{2+}, –2.06; Cd^{2+}, –2.19	SSM	0.001	0.001	33	4×10^{-6} – 3×10^{-3}	25.0 ± 0.1 °C	[1]
	Pb^{2+}-1 (w = 1 %), oNPOE (w = 66 %), PVC (w = 33 %)	Li^{+}, –2.3; Na^{+}, –1.8; K^{+}, –0.5; NH_4^{+}, –1.4; Ca^{2+}, –1.9; Sr^{2+}, –2.0; Mn^{2+}, –2.1; Co^{2+}, –1.9; Ni^{2+}, –1.98; Cu^{2+}, –1.98; Zn^{2+}, –2.0; Cd^{2+}, –2.2; Ag^{+}, –1.35; Tl^{+}, –0.6	SSM	0.001	0.001	45 ± 2	–	22 ± 2 °C; pH = 6; r.o.o.g.; Charge numbers of the ions were omitted to calculate K.	[2]
	Pb^{2+}-1 (w = 1 %), DOP (w = 66 %), PVC (w = 33 %)	Li^{+}, –2.44; Na^{+}, –1.6; K^{+}, –0.55; NH_4^{+}, –2.2; Ca^{2+}, –2.46; Sr^{2+}, –2.44; Mn^{2+}, –2.55; Co^{2+}, –2.4; Ni^{2+}, –2.44; Cu^{2+}, –2.5; Zn^{2+}, –2.42; Cd^{2+}, –2.7; Ag^{+}, –1.98; Tl^{+}, –0.85	SSM	0.001	0.001	45 ± 2	–	22 ± 2 °C; pH = 6; r.o.o.g.; Charge numbers of the ions were omitted to calculate K.	[2]
Pb^{2+}-2	**Pb^{2+}-2** (w = 1 %), oNPOE (w = 66 %), PVC (w = 33 %)	Ca^{2+}, –2.40; Sr^{2+}, –2.40; Co^{2+}, –2.52; Ni^{2+}, –2.62; Cu^{2+}, –1.89; Zn^{2+}, –2.11; Cd^{2+}, –2.19	SSM	0.001	0.001	nN	4×10^{-6} – 3×10^{-3}	25.0 ± 0.1 °C	[1]
	Pb^{2+}-2 (w = 1 %), DOP (w = 66 %), PVC (w = 33 %)	Ca^{2+}, –2.10; Sr^{2+}, –2.41; Co^{2+}, –2.49; Ni^{2+}, –2.30; Cu^{2+}, –1.60; Zn^{2+}, –1.89; Cd^{2+}, –2.23	SSM	0.001	0.001	nN	4×10^{-6} – 3×10^{-3}	25 ± 2 °C	[1]
	Pb^{2+}-2 (w = 1 %), oNPOE (w = 66 %), PVC (w = 33 %)	Li^{+}, –2.75; Na^{+}, –2.25; K^{+}, –2.0; NH_4^{+}, –2.05; Ca^{2+}, –2.40; Sr^{2+}, –2.36; Mn^{2+}, –2.50; Co^{2+}, –2.0; Ni^{2+}, –1.95; Cu^{2+}, –1.7; Zn^{2+}, –2.3; Cd^{2+}, –2.4; Ag^{+}, –1.47; Tl^{+}, –1.4	SSM	0.001	0.001	45 ± 2	–	22 ± 2 °C; pH = 6; r.o.o.g.; Charge numbers of the ions were omitted to calculate K.	[2]

Table 18: Pb^{2+}-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{Pb^{2+},B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/ decade)	linear range (M)	remarks	ref.
	Pb^{2+}-2 (w = 1 %), DOP (w = 66 %), PVC (w = 33 %)	Li^+, –2.8; Na^+, –2.35; K^+, –1.95; NH_4^+, –2.28; Ca^{2+}, –2.7; Sr^{2+}, –2.6; Mn^{2+}, –2.65; Co^{2+}, –2.3; Ni^{2+}, –2.3; Cu^{2+}, –2.0; Zn^{2+}, –2.45; Cd^{2+}, –2.4; Ag^+, –1.58; Tl^+, –1.55	SSM	0.001	0.001	45 ± 2	–	22 ± 2 °C; pH = 6; r.o.o.g.; Charge numbers of the ions were omitted to calculate K.	[2]
Pb^{2+}-3	**Pb^{2+}-3**, (several μL), reactive monomer solution (1.55 mL, mixture of 2,4-diisocyanate-tri-ethylene glycol-2,4-diisocyanate, 2-hydroxyethyl methacrylate and 2,2-diethoxyacetophenone)	Na^+, –5.0 K^+, –4.1; Mg^{2+}, –5.3; Ca^{2+}, –5.2; Fe^{3+}, –5.5	FIM SSM	– 10^{-3} 10^{-4}	0.01 10^{-3} 10^{-4}	63	10^{-6}–10^{-3}	ISFET; 25 °C; 10^{-2} M sodium acetate, pH = 5.5; t_{resp} < 2 min; τ > 60 d	[3]
	Pb^{2+}-3 (w = 5 %), BHES (w = 62 %), PVC–PVA–PVAc (w = 33 %) PVA, poly(vinyl alcohol); PVAc, poly(vinyl acetate)	K^+, –3.21; Al^{3+}, –2.12; Fe^{2+}, –4.26; Cu^{2+}, –3.01; Cd^{2+}, –2.82; Hg^{2+}, –1.81	FIM	– –	0.1 0.005 10^{-5} 0.05 0.01	31.9	10^{-6} -8.4×10^{-3}	25 °C; ionic strength of 10^{-3} M $NaClO_4$; t_{resp} = 10 s; τ = 210 d	[4]
	Pb^{2+}-3 (w = 5 %), BHES (w = 62 %), PVC–PVA–PVAc (w = 33 %) PVA, poly(vinyl alcohol); PVAc, poly(vinyl acetate)	K^+, –2.12; Al^{3+}, –3.16; Fe^{2+}, –1.67; Cu^{2+}, –2.63; Cd^{2+}, –2.16; Hg^{2+}, –1.60	FIM	–	0.1 0.01 0.001 0.005	36.1	10^{-6} -3.1×10^{-3}	25 °C; coated carbon elec.; ionic strength of 10^{-3} M $NaClO_4$; t_{resp} = 20 s; τ = 150 d	[4]
Pb^{2+}-4	**Pb^{2+}-4** (w = 1 %), oNPOE (w = 69 %), PVC (w = 30 %)	Li^+, +0.3; Na^+, –0.5; K^+, –2.0; NH_4^+, –2.0; H^+, –0.3; Mg^{2+}, –2.6; Ca^{2+}, –0.3; Sr^{2+}, –2.2; Ba^{2+}, –2.4; Co^{2+}, –2.6; Ni^{2+}, –2.8; Cu^{2+}, –2.4; Zn^{2+}, –0.5; Cd^{2+}, –0.2; Ag^+, +1.9	SSM	0.1	0.1	23.0	$10^{-3.0}$ $-10^{-1.5}$	20–22 °C; 4.0 < pH < 6.0; r.o.o.g.; pH = 4	[5]
	Pb^{2+}-4 (w = 1 %), oNPOE (w = 67–69 %), PVC (w = 30 %), KTpClPB (x_i = 40 %)	Li^+, –1.4; Na^+, –3.5; K^+, –3.9; NH_4^+, –4.0; H^+, –0.7; Mg^{2+}, –3.0; Ca^{2+}, +0.0; Sr^{2+}, –2.4; Ba^{2+}, –3.0; Co^{2+}, –3.5; Ni^{2+}, –4.5; Cu^{2+}, –2.5; Zn^{2+}, –1.4; Cd^{2+}, +0.2; Ag^+, +1.0	SSM	0.1	0.1	34.1	$10^{-4.0}$ $-10^{-1.5}$	20–22 °C; 3.0 < pH < 6.0; r.o.o.g.; pH = 4	[5]

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Table 18: Pb^{2+}-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{Pb^{2+},B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/ decade)	linear range (M)	remarks	ref.
Pb^{2+}-5	**Pb^{2+}-5** (w = 1 %), oNPOE (w = 69 %), PVC (w = 30 %)	Li^+, –2.2; Na^+, –0.6; K^+, –2.7; NH_4^+, –1.8; H^+, –0.7; Mg^{2+}, –2.9; Ca^{2+}, –0.9; Sr^{2+}, –1.2; Ba^{2+}, –1.5; Co^{2+}, –1.8; Ni^{2+}, –2.0; Cu^{2+}, –1.3; Zn^{2+}, –2.5; Cd^{2+}, –0.6; Ag^+, +0.5	SSM	0.1	0.1	37.2	$10^{-5.0}$ $-10^{-2.0}$	20–22 °C; 4.0 < pH < 6.0; r.o.o.g.; pH = 4	[5]
	Pb^{2+}-5 (w = 1 %), oNPOE (w = 67–69 %), PVC (w = 30 %), KTpClPB (x_i = 40 %)	Li^+, –3.5; Na^+, –1.9; K^+, –3.8; NH_4^+, –1.9; H^+, –1.3; Mg^{2+}, –3.2; Ca^{2+}, +0.5; Sr^{2+}, –1.1; Ba^{2+}, –1.3; Co^{2+}, –3.8; Ni^{2+}, –3.2; Cu^{2+}, –1.6; Zn^{2+}, –2.6; Cd^{2+}, +0.7; Ag^+, +1.4	SSM	0.1	0.1	40.2	$10^{-5.3}$ $-10^{-1.5}$	20–22 °C; 3.0 < pH < 6.0; r.o.o.g.; pH = 4	[5]
Pb^{2+}-6	**Pb^{2+}-6** (w = 1 %), oNPOE (w = 69 %), PVC (w = 30 %)	Li^+, –0.8; Na^+, –1.5; K^+, –1.2; NH_4^+, –1.2; H^+, +1.8; Mg^{2+}, –2.7; Ca^{2+}, –2.0; Sr^{2+}, –1.7; Ba^{2+}, –1.8; Co^{2+}, –3.2; Ni^{2+}, –2.9; Cu^{2+}, –2.2; Zn^{2+}, –3.2; Cd^{2+}, –3.5; Ag^+, +1.2	SSM	0.1	0.1	27.3	$10^{-5.5}$ $-10^{-2.0}$	20–22 °C; 3.0 < pH < 5.5 r.o.o.g.; pH = 4	[5]
	Pb^{2+}-6 (w = 1 %), oNPOE (w = 67–69 %), PVC (w = 30 %), KTpClPB (x_i = 40 %)	Li^+, –2.9; Na^+, –3.7; K^+, –3.8; NH_4^+, –3.6; H^+, –0.2; Mg^{2+}, –4.6; Ca^{2+}, –2.2; Sr^{2+}, –1.6; Ba^{2+}, –2.3; Co^{2+}, –4.0; Ni^{2+}, –4.6; Cu^{2+}, –3.8; Zn^{2+}, –4.3; Cd^{2+}, –4.0; Ag^+, +0.1	SSM	0.1	0.1	35.3	$10^{-5.2}$ $-10^{-1.0}$	20–22 °C; 2.0 < pH < 6.0 r.o.o.g.; pH = 4	[5]
Pb^{2+}-7	**Pb^{2+}-7** (w = 1 %), oNPOE (w = 69 %), PVC (w = 30 %)	Li^+, +1.3; Na^+, +0.4; K^+, –2.0; NH_4^+, –2.5; H^+, –1.7; Mg^{2+}, –2.3; Ca^{2+}, –0.3; Sr^{2+}, –1.0; Ba^{2+}, –1.3; Co^{2+}, –2.7; Ni^{2+}, –3.0; Cu^{2+}, –2.1; Zn^{2+}, –1.7; Cd^{2+}, –0.5; Ag^+, +0.8	SSM	0.1	0.1	23.5	$10^{-5.0}$ $-10^{-1.0}$	20–22 °C; 3.0 < pH < 5.0; r.o.o.g.; pH = 4	[5]

Table 18: Pb^{2+}-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{Pb^{2+},B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/ decade)	linear range (M)	remarks	ref.
	Pb^{2+}-7 (w = 1 %), oNPOE (w = 67–69 %), PVC (w = 30 %), KTpClPB (x_i = 40 %)	Li^+, –0.3; Na^+, +0.4; K^+, –3.7; NH_4^+, –3.7; H^+, –4.2; Mg^{2+}, –3.3; Ca^{2+}, –0.3; Sr^{2+}, –1.1; Ba^{2+}, –1.6; Co^{2+}, –3.3; Ni^{2+}, –4.5; Cu^{2+}, –3.1; Zn^{2+}, –1.6; Cd^{2+}, –0.7; Ag^+, +0.1	SSM	0.1	0.1	26.89	$10^{-5.3}$ $-10^{-1.0}$	20–22 °C; 3.0 < pH < 6.0; r.o.o.g.; pH = 4	[5]
Pb^{2+}-8	**Pb^{2+}-8** (w = 11.2 %), oNPOE (w = 49.6%), PVC (w = 37.2 %), KTpClPB (x_i = 15 %)	Mg^{2+}, –5.26; Ca^{2+}, –5.44; Mn^{2+}, –5.21; Co^{2+}, –5.20; Ni^{2+}, –4.96; Cd^{2+}, –3.57	FIM	–	0.1	28	$10^{-6.0}$ $-10^{-2.0}$	25.0 ± 0.1 °C; 3.1 < pH < 5.4; $c_{dl} = 3.5 \times 10^{-7}$ M; t_{resp} = 16 s	[5, 6]
		Na^+, –2.23			0.01				
		Zn^{2+}, –3.48; Fe^{3+}, –2.54			0.001				
		Cu^{2+}, –3.48;			10^{-5}				
	Pb^{2+}-8 (w = 12.7 %), oNPOE (w = 52.9%), PVC (w = 32.4 %), KTpClPB (x_i = 13 %)	Na^+, –1.8; K^+, –2.0; Mg^{2+}, –5.2; Ca^{2+}, –5.43 Sr^{2+}, –4.8; Mn^{2+}, –4.8; Co^{2+}, –4.6; Ni^{2+}, –4.5; Cd^{2+}, –3.4	FIM	–	0.1	29	$10^{-5.0}$ $-10^{-1.0}$	25 ± 0.1 °C; 3.5 < pH < 5.4; $c_{dl} = 7.9 \times 10^{-6}$ M; t_{resp} = 11 s; coated carbon elec.; r.o.o.g.	[7]
		Cu^{2+}, +0.8			10^{-5}				
		Zn^{2+}, –3.0			0.001				
Pb^{2+}-9	**Pb^{2+}-9** (w = 12.4 %), oNPOE (w = 49.4%), PVC (w = 37.0 %), KTpClPB (x_i = 15 %)	Mg^{2+}, –2.51; Ca^{2+}, –2.39; Mn^{2+}, –2.16; Co^{2+}, –1.85; Ni^{2+}, –1.80; Cd^{2+}, –1.54	FIM	–	0.1	28	$10^{-6.0}$ $-10^{-2.0}$	25.0 ± 0.1 °C; 3.1 < pH < 5.4; $c_{dl} = 3.5 \times 10^{-7}$ M; t_{resp} = 8 s	[6, 7]
		Na^+, –1.31			0.01				
		Zn^{2+}, –1.51; Fe^{3+}, –2.54			0.001				
		Cu^{2+}, –1.11			10^{-5}				
	Pb^{2+}-9 (w = 11.0 %), oNPOE (w = 53.0 %), PVC (w = 33.9 %), KTpClPB(x_i = 18 %)	Na^+, –1.0; Mg^{2+}, –2.9; Ca^{2+}, –2.9; Sr^{2+}, –2.6; Mn^{2+}, –2.6; Co^{2+}, –2.4; Ni^{2+}, –2.3; Cd^{2+}, –2.0	FIM	–	0.1	29	$10^{-5.0}$ $-10^{-1.0}$	25.0 ± 0.1 °C; 3.5 < pH < 5.4; $c_{dl} = 7.9 \times 10^{-6}$ M; t_{resp} = 6 s; coated carbon elec.; r.o.o.g.	[7]
		Zn^{2+}, –1.8			0.001				
		Cu^{2+}, +1.1			10^{-5}				
Pb^{2+}-10	**Pb^{2+}-10** (w = 1 %), DBP (w = 66 %), PVC (w = 33 %)	Li^+, –3.07; Na^+, –3.00; K^+, –2.16 ; Rb^+, –2.68; Cs^+, –2.38; Mg^{2+}, –2.28; Ca^{2+}, –2.92; Sr^{2+}, –2.19;		–	–	nN	$10^{-6.0}$ $-10^{-2.0}$		[8]

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Table 18: Pb^{2+}-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{Pb^{2+},B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/ decade)	linear range (M)	remarks	ref.
		Ba^{2+}, –2.52; Co^{2+}, –2.82; Ni^{2+}, –2.92; Cu^{2+}, –0.44; Zn^{2+}, –2.51; Cd^{2+}, –2.16; Ag^{+}, +0.54							
Pb^{2+}-11	**Pb^{2+}-11** (*w* = 1 %), DBP (*w* = 66 %), PVC (*w* = 33 %)	Li^{+}, –3.00; Na^{+}, –2.96; K^{+}, –2.82; Rb^{+}, –3.00; Cs^{+}, –4.00; Mg^{2+}, –2.64; Ca^{2+}, –3.00; Sr^{2+}, –2.92; Ba^{2+}, –3.19; Co^{2+}, –2.30; Ni^{2+}, –2.15; Cu^{2+}, –0.44; Zn^{2+}, –2.51; Cd^{2+}, –2.51; Ag^{+}, –0.33		–	–	nN	$10^{-5.0}$ $-10^{-2.0}$		[8]
Pb^{2+}-12	**Pb^{2+}-12** (*w* = 1 %), DBP (*w* = 66 %), PVC (*w* = 33 %)	Li^{+}, –4.00; Na^{+}, –3.00; K^{+}, –2.17; Rb^{+}, –2.19; Cs^{+}, –2.96; Mg^{2+}, –3.70; Ca^{2+}, –4.00; Sr^{2+}, –4.00; Ba^{2+}, –3.52; Co^{2+}, –3.62; Ni^{2+}, –4.00; Cu^{2+}, –1.52; Zn^{2+}, –3.22; Cd^{2+}, –2.40; Ag^{+}, –0.35		–	–	nN	$10^{-5.0}$ $-10^{-2.0}$		[8]
Pb^{2+}-13	**Pb^{2+}-13** (*w* = 40 %), DBP (*w* = 20 %), PVC (*w* = 40 %)	Li^{+}, –4.97; Na^{+}, –1.81; K^{+}, –0.61; Mg^{2+}, –4.51; Ca^{2+}, –4.89; Sr^{2+}, –4.56; Ba^{2+}, –4.13; Co^{2+}, –4.70; Ni^{2+}, –3.93; Cu^{2+}, –3.09; Zn^{2+}, –4.86; Cd^{2+}, –5.11; Hg^{2+}, –0.83; Ag^{+}, –1.31; La^{3+}, –4.84; Fe^{3+}, –4.25	MSM	10^{-5}	–	30 ± 1	$10^{-6.0}$ $-10^{-2.0}$	t_{resp} < 1 min	[9]
Pb^{2+}-14	**Pb^{2+}-14** (*w* = 37 %), DBP (*w* = 18.5 %), PVC (*w* = 44.5 %)	Li^{+}, –2.31; Na^{+}, –0.61; K^{+}, –0.64; Mg^{2+}, –4.36; Ca^{2+}, –4.43; Sr^{2+}, –3.29; Ba^{2+}, –3.46; Co^{2+}, –3.68; Ni^{2+}, –3.63; Cu^{2+}, –3.68; Zn^{2+}, –4.76; Cd^{2+}, –4.00; Hg^{2+}, –4.24; Ag^{+}, –0.06; La^{3+}, –0.08 Fe^{3+}, –0.51	MSM	10^{-5}	–	30 ± 1	$10^{-6.0}$ $-10^{-1.0}$	t_{resp} < 1 min	[9]

Table 18: Pb^{2+}-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{Pb^{2+},B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/ decade)	linear range (M)	remarks	ref.
Pb^{2+}-15	**Pb^{2+}-15** (w = 40 %), DBP (w = 20 %), PVC (w = 40 %)	Li^+, –1.56; Na^+, –1.36; K^+, –1.28; Mg^{2+}, –4.77; Ca^{2+}, –5.11; Sr^{2+}, –3.41; Ba^{2+}, –3.75; Co^{2+}, –3.78; Ni^{2+}, –4.11; Cu^{2+}, –4.44; Zn^{2+}, –5.01; Cd^{2+}, –4.53; Hg^{2+}, –1.44; Ag^+, –0.61; La^{3+}, –2.58 Fe^{3+}, –2.19	MSM	10^{-5}	–	30 ± 1	$10^{-6.0}$ $-10^{-1.0}$	t_{resp} < 1 min	[9]
Pb^{2+}-16	**Pb^{2+}-16** (w = 1 %), oNPOE (w = 67–69 %), PVC (w = 30 %), KTpClPB (x_i = 70 %)	Mg^{2+}, –3.8; Ca^{2+}, –2.4; Co^{2+}, –3.6; Ni^{2+}, –3.6; Cu^{2+}, –1.7; Zn^{2+}, –3.8; Cd^{2+}, –2.5	SSM	0.01	0.01	36.9	$10^{-5.4}$ $-10^{-1.5}$	t_{95} < 20 s; τ = 14 d; r.o.o.g.	[10]
		H^+, –0.4; Li^+, –2.2; Na^+, –2.0; K^+, –1.0 ; Rb^+, –0.4; NH_4^+, –0.4; Pb^{2+}, –0.9; Ag^+, +0.3	SSM	0.1	0.1			K was obtained as $\lg K_{Cs^+,B^{n+}}$; r.o.o.g.	
Pb^{2+}-17	**Pb^{2+}-17** (w = 1 %), oNPOE (w = 67–69 %), PVC (w = 30 %), KTpClPB (x_i = 70 %)	Mg^{2+}, –2.9; Ca^{2+}, –2.2; Co^{2+}, –2.6; Ni^{2+}, –2.8; Cu^{2+}, –1.2; Zn^{2+}, –2.8; Cd^{2+}, –2.6	SSM	0.01	0.01	–	–	r.o.o.g.	[10]
		H^+, –2.0; Li^+, –2.8; Na^+, –2.5; K^+, –1.2; Rb^+, –0.5 NH_4^+, –1.6; Pb^{2+}, –1.9; Ag^+, +2.0	SSM	0.1	0.1			K was obtained as $\lg K_{Cs^+,B^{n+}}$; r.o.o.g.	
Pb^{2+}-18	**Pb^{2+}-18** (w = 1 %), oNPOE (w = 67–69 %), PVC (w = 30 %), KTpClPB (x_i = 70 %)	Mg^{2+}, –2.0; Ca^{2+}, –1.2; Co^{2+}, –1.8; Ni^{2+}, –1.8; Cu^{2+}, –0.6; Zn^{2+}, –2.0; Cd^{2+}, –1.5	SSM	0.01	0.01	–	–	r.o.o.g.	[10]
		H^+, –3.4; Li^+, –3.3; Na^+, –2.8; K^+, –1.4; Rb^+, –0.5; NH_4^+, –1.7; Pb^{2+}, –2.6; Ag^+, +1.0	SSM	0.1	0.1			K was obtained as $\lg K_{Cs^+,B^{n+}}$; r.o.o.g.	
Pb^{2+}-19	**Pb^{2+}-19** (w = 1 %), oNPOE (w = 67–69 %), PVC (w = 30 %), KTpClPB (x_i = 70 %)	Mg^{2+}, –2.3; Ca^{2+}, –3.4; Co^{2+}, –3.0; Ni^{2+}, –1.9; Cu^{2+}, –0.6; Zn^{2+}, –2.1; Cd^{2+}, –1.9	SSM	0.01	0.01	–	–	r.o.o.g.	[10]

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Table 18: Pb^{2+}-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{Pb^{2+},B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/ decade)	linear range (M)	remarks	ref.
		H^+, –3.5; Li^+, –1.4; Na^+, –2.1; K^+, –1.4; Rb^+, –0.6; NH_4^+, –1.9; Pb^{2+}, –2.8; Ag^+, +0.8	SSM	0.1	0.1			*K* was obtained as $\lg K_{Cs^+,B^{n+}}$; r.o.o.g.	
Pb^{2+}-20	**Pb^{2+}-20** (*w* = 1 %), oNPOE (*w* = 67–69 %), PVC (*w* = 30 %), KTpClPB (x_i = 70 %)	Mg^{2+}, –4.2; Ca^{2+}, –2.4; Co^{2+}, –3.9; Ni^{2+}, –3.9; Cu^{2+}, –1.4; Zn^{2+}, –4.2; Cd^{2+}, –2.7	SSM	0.01	0.01	35.2	$10^{-5.4}$ $-10^{-1.5}$	$t_{95} < 20$ s; $\tau > 14$ d; r.o.o.g.	[10]
		H^+, –1.6; Li^+, –2.4 Na^+, –2.2; K^+, –1.0; Rb^+, –0.4; NH_4^+, –1.3; Pb^{2+}, –0.7; Ag^+, +1.0	SSM	0.1	0.1			*K* was obtained as $\lg K_{Cs^+,B^{n+}}$; r.o.o.g.	
Pb^{2+}-21	**Pb^{2+}-21** (*w* = 1 %), oNPOE (*w* = 67–69 %), PVC (*w* = 30 %), KTpClPB (x_i = 70 %)	Mg^{2+}, –3.5; Ca^{2+}, –2.3; Co^{2+}, –3.7; Ni^{2+}, –3.7; Cu^{2+}, –1.4; Zn^{2+}, –3.5; Cd^{2+}, –2.7	SSM	0.01	0.01	–	–	r.o.o.g.	[10]
		H^+, –2.0; Li^+, –2.7; Na^+, –2.4; K^+, –1.2; Rb^+, –0.6; NH_4^+, –1.7; Pb^{2+}, –1.4; Ag^+, +1.4	SSM	0.1	0.1			*K* was obtained as $\lg K_{Cs^+,B^{n+}}$; r.o.o.g.	
Pb^{2+}-22	**Pb^{2+}-22** (*w* = 1 %), oNPOE (*w* = 67–69 %), PVC (*w* = 30 %), KTpClPB (x_i = 70 %)	Mg^{2+}, –3.5; Ca^{2+}, –1.6; Co^{2+}, –2.3; Ni^{2+}, –2.3; Cu^{2+}, –0.3; Zn^{2+}, –3.5; Cd^{2+}, –2.0	SSM	0.01	0.01	–	–	r.o.o.g.	[10]
		H^+, –2.5; Li^+, –3.4; Na^+, –3.0; K^+, –1.4; Rb^+, –0.6; NH_4^+, –1.9; Pb^{2+}, –2.7; Ag^+, +1.0	SSM	0.1	0.1			*K* was obtained as $\lg K_{Cs^+,B^{n+}}$; r.o.o.g.	
Pb^{2+}-23	**Pb^{2+}-23** (*w* = 1 %), oNPOE (*w* = 67–69 %), PVC (*w* = 30 %), KTpClPB (x_i = 70 %)	Mg^{2+}, –3.4; Ca^{2+}, –2.0; Co^{2+}, –3.3; Ni^{2+}, –3.3; Cu^{2+}, –1.5; Zn^{2+}, –3.4; Cd^{2+}, –2.3	SSM	0.01	0.01	–	–	r.o.o.g.	[10]
		H^+, –2.2; Li^+, –2.8; Na^+, –2.6; K^+, –1.3; Rb^+, –0.6; NH_4^+, –1.7; Pb^{2+}, –1.5; Ag^+, +1.3	SSM	0.1	0.1			*K* was obtained as $\lg K_{Cs^+,B^{n+}}$; r.o.o.g.	

Table 18: Pb^{2+}-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{Pb^{2+},B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/ decade)	linear range (M)	remarks	ref.
Pb^{2+}-24	**Pb^{2+}-24** (w = 1 %), oNPOE (w = 67–69 %), PVC (w = 30 %), KTpClPB (x_i = 70 %)	Mg^{2+}, –2.2; Ca^{2+}, –1.3; Co^{2+}, –2.0; Ni^{2+}, –2.2; Cu^{2+}, –0.7; Zn^{2+}, –2.0; Cd^{2+}, –1.8	SSM	0.01	0.01	–	–	r.o.o.g.	[10]
		H^+, –1.5; Li^+, –2.7; Na^+, –2.6; K^+, –1.0; Rb^+, –0.5; NH_4^+, –1.5; Pb^{2+}, –2.4; Ag^+, +1.6	SSM	0.1	0.1			K was obtained as $\lg K_{Cs^+,B^{n+}}$; r.o.o.g.	
Pb^{2+}-25	**Pb^{2+}-25** (w = 1 %), oNPOE (w = 67–69 %), PVC (w = 30 %), KTpClPB (x_i = 70 %)	Mg^{2+}, –1.8; Ca^{2+}, –1.0; Co^{2+}, –1.4; Ni^{2+}, –1.6; Cu^{2+}, –0.6; Zn^{2+}, –1.6; Cd^{2+}, –1.4	SSM	0.01	0.01	–	–	r.o.o.g.	[10]
		H^+, –1.7; Li^+, –3.3; Na^+, –2.8; K^+, –1.2; Rb^+, –0.5; NH_4^+, –1.6; Pb^{2+}, –3.0; Ag^+, +1.0	SSM	0.1	0.1			K was obtained as $\lg K_{Cs^+,B^{n+}}$; r.o.o.g.	
Pb^{2+}-26	**Pb^{2+}-26** (w = 1 %), oNPOE (w = 67–69 %), PVC (w = 30 %), KTpClPB (x_i = 70 %)	Mg^{2+}, –1.4; Ca^{2+}, –1.0; Co^{2+}, –1.2; Ni^{2+}, –1.4; Cu^{2+}, –0.2; Zn^{2+}, –1.4; Cd^{2+}, –1.2	SSM	0.01	0.01	–	–	r.o.o.g.	[10]
		H^+, –2.2; Li^+, –3.6; Na^+, –3.0; K^+, –1.3; Rb^+, –0.5; NH_4^+, –2.2; Pb^{2+}, –3.4; Ag^+, +0.7	SSM	0.1	0.1			K was obtained as $\lg K_{Cs^+,B^{n+}}$; r.o.o.g.	
Pb^{2+}-27	**Pb^{2+}-27** (w = 1 %), oNPOE (w = 65–66 %), PVC (w = 33 %), KTpClPB (x_i = 75 %)	Li^+, –3.6; Na^+, –3.6; K^+, –4.2; NH_4^+, –4.0; Mg^{2+}, –5.0; Ca^{2+}, –4.8; Ba^{2+}, –4.8; Co^{2+}, –5.0; Ni^{2+}, –5.0; Cu^{2+}, –3.3; Zn^{2+}, –4.8; Cd^{2+}, –3.8; Hg^{2+}, +0.6, Ag^+, +1.5	SSM	0.01	0.01	28.7	$< 10^{-1.8}$	$t_{95} < 10$ s; $c_{dl} = 10^{-6.5}$ M; $3 < pH < 6$; r.o.o.g.	[11]
	Pb^{2+}-27 (w = 1 %), BBPA (w = 65–66 %), PVC (w = 33 %), KTpClPB (x_i = 75 %)	Li^+, –2.3; Na^+, +0.7; K^+, –1.9; NH_4^+, –2.8; Mg^{2+}, –3.6; Ca^{2+}, –2.6; Ba^{2+}, –4.0; Co^{2+}, –3.8; Ni^{2+}, –4.0; Cu^{2+}, –4.0; Zn^{2+}, –3.8; Cd^{2+}, –3.0; Hg^{2+}, strong interference	SSM	0.01	0.01	–	–	r.o.o.g.	[11]

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Table 18: Pb^{2+}-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{Pb^{2+},B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/ decade)	linear range (M)	remarks	ref.
	Pb^{2+}-27 (w = 1 %), oNPOE (w = 66 %), PVC (w = 33 %)	Na^+, +0.5; K^+, –0.2 ; Ca^{2+}, –0.8; Cu^{2+}, –0.9; Cd^{2+}, –0.7	SSM	0.1	0.1	–	–	r.o.o.g.; internal electrolyte, 10^{-2} M LiCl; pH = 4.5	[12]
		Na^+, +0.4; K^+, –0.3; Ca^{2+}, –1.1; Cu^{2+}, –0.3; Cd^{2+}, –0.3	SSM	0.1	0.1	–	–	r.o.o.g.; internal electrolyte, 10^{-2} M KCl; pH = 4.5	
		Na^+, +0.3; K^+, +0.3; Ca^{2+}, –0.9; Cu^{2+}, –0.5; Cd^{2+}, –0.5	SSM	0.1	0.1	–	–	r.o.o.g.; internal electrolyte, 10^{-2} M $CdCl_2$; pH = 4.5	
		Na^+, +0.3; K^+, +0.3; Ca^{2+}, –1.2; Cu^{2+}, –0.7; Cd^{2+}, –0.7	SSM	0.1	0.1	–	–	r.o.o.g.; internal electrolyte, 10^{-2} M $PbCl_2$;	
		Na^+, +0.7: K^+, +0.1; Ca^{2+}, –0.7; Cu^{2+}, –1.0; Cd^{2+}, –0.8	SSM	0.1	0.1	–	–	r.o.o.g.; internal electrolyte, 10^{-2} M $HgCl_2$; pH = 4.5	
	Pb^{2+}-27 (w = 1 %), oNPOE (w = 66 %), PVC (w = 33 %), TDDMAC (x_i = 25 %)	Na^+, +0.5; K^+, +0.0 ; Ca^{2+}, –0.5; Cu^{2+}, –0.7; Cd^{2+}, –0.9	SSM	0.1	0.1	–	–	r.o.o.g.; internal electrolyte, 10^{-2} M $HgCl_2$; pH = 4.5	[12]
	Pb^{2+}-27 (w = 1 %), oNPOE (w = 66 %), PVC (w = 33 %), KFTPB (x_i = 25 %)	Na^+, +0.3; K^+, –0.2 ; Ca^{2+}, –0.8; Cu^{2+}, –2.5; Cd^{2+}, –0.9	SSM	0.1	0.1	–	–	r.o.o.g.; internal electrolyte, 10^{-2} M $HgCl_2$; pH = 4.5	[12]
	Pb^{2+}-27 (w = 1 %), oNPOE (w = 66 %), PVC (w = 33 %), KFTPB (x_i = 75 %)	Na^+, –1.1; K^+, –2.8; Ca^{2+}, –0.9; Cu^{2+}, –3.9; Cd^{2+}, –0.9	SSM	0.1	0.1	30.1	–	r.o.o.g.; internal electrolyte, 10^{-2} M $HgCl_2$; pH = 4.5	[12]
		Cu^{2+}, –4.4	FIM	–	–				
		Cu^{2+}, –3.8	SSM	0.1	0.1	–	–	internal electrolyte, 10^{-2} M $PbCl_2$; pH = 4.5	
		Cu^{2+}, –3.9	FIM	–	–				
		Cu^{2+}, –4.0	SSM	0.1	0.1	–	–	internal electrolyte, 10^{-2} M LiCl; pH = 4.5	
		Cu^{2+}, –4.1	FIM	–	–				
	Pb^{2+}-27 (w = 1 %), oNPOE (w = 66 %), PVC (w = 33 %),	Na^+, –3.7; K^+, –4.3; Ca^{2+}, –2.0; Cu^{2+}, –4.5; Cd^{2+}, –2.8	SSM	0.1	0.1	35.5	–	r.o.o.g.; internal electrolyte, 10^{-2} M $HgCl_2$;	[12]

Table 18: Pb^{2+}-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{Pb^{2+},B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/ decade)	linear range (M)	remarks	ref.
	KFTPB (x_i = 150 %)	Cu^{2+}, –4.4	FIM	–	–			pH = 4.5	
		Cu^{2+}, –4.2	SSM	0.1	0.1	–	–	internal electrolyte;	
		Cu^{2+}, –4.1	FIM	–	–			10^{-2} M $PbCl_2$; pH = 4.5	
		Cu^{2+}, –2.7	SSM	0.1	0.1	–	–	internal electrolyte, 10^{-2} M LiCl; pH = 4.5	
	Pb^{2+}-27 (w = 1 %), PVC (w = 33 %), oNPOE (w = 66 %), KFTPB (x_i = 300 %)	Na^+, –1.1; K^+, –0.6; Ca^{2+}, –0.3; Cu^{2+}, –1.2; Cd^{2+}, +0.1	SSM	0.1	0.1	–	–	r.o.o.g.; internal electrolyte, 10^{-2} M $HgCl_2$; pH = 4.5	[12]
	Pb^{2+}-27 (w = 2 %), oNPOE ($w \approx$ 65 %), PVC ($w \approx$ 32 %), KTpClPB (x_i = 85 %)	K^+, –5.2; Ca^{2+}, –4.3 Cu^{2+}, –3.4; Cd^{2+}, –4.2	FIM	–	1 0.1 0.01	30	–	ISFET; pH = 4	[13]
Pb^{2+}-28	**Pb^{2+}-28** (w = 1 %), oNPOE (w = 65–66 %), PVC (w = 33 %), KTpClPB (x_i = 75 %)	Li^+, –3.3; Na^+, –0.8; K^+, –3.1; NH_4^+, –3.6; Mg^{2+}, –4.2; Ca^{2+}, –4.8; Ba^{2+}, –4.2; Co^{2+}, –4.4; Ni^{2+}, –4.4 Cu^{2+}, –2.8; Zn^{2+}, –4.2; Cd^{2+}, –1.6; Hg^{2+}, strong interference	SSM	0.01	0.01	28.8	$< 10^{-1.8}$	$t_{95} < 8$ s; $c_{dl} = 10^{-5.5}$ M; 3 < pH < 6; r.o.o.g.	[11]
	Pb^{2+}-28 (w = 2 %), oNPOE ($w \approx$ 65 %), PVC ($w \approx$ 32 %), KTpClPB (x_i = 85 %)	K^+, –2.8; Ca^{2+}, –4.2; Cu^{2+}, –2.7; Cd^{2+}, –1.7	FIM	–	0.1 0.01	–	–	ISFET; pH = 4	[13]
Pb^{2+}-29	**Pb^{2+}-29** (w = 6.2 %), DBP (w = 15.6 %), PVC (w = 78.2 %)	Li^+, +1.50; Na^+, +1.50; K^+, +1.50; NH_4^+, +1.20; Mg^{2+}, –0.75; Ca^{2+}, –0.45; Sr^{2+}, –0.70; Ba^{2+}, –0.55; Co^{2+}, –0.51; Cu^{2+}, –0.55; Zn^{2+}, –0.66; Cd^{2+}, –0.55; Hg^{2+}, –0.55; Ag^+, +1.35; Fe^{3+}, –1.30	FIM	–	0.01	30	$10^{-5.3}$ $-10^{-1.0}$	25.0 ± 0.1 °C; 3 < pH < 6; t_{resp} = 30 s; τ > 120 d (stored in water); r.o.o.g.	[14]

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Table 18: Pb^{2+}-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{Pb^{2+},B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/ decade)	linear range (M)	remarks	ref.
		Li^+, –0.48; Na^+, –0.48; K^+, –0.48; NH_4^+, +1.20; Mg^{2+}, –0.75; Ca^{2+}, –0.45; Sr^{2+}, –0.70; Ba^{2+}, –0.55; Co^{2+}, –0.51; Cu^{2+}, –0.55; Zn^{2+}, –0.66; Cd^{2+}, –0.55; Hg^{2+}, –0.55; Ag^+, –0.65; Fe^{3+}, –0.61	FIM	–	0.01	–	–	r.o.o.g.; *K* values were calculated by omitting charge numbers of the ions, i.e., $K=a_A/a_B$.	
Pb^{2+}-30	**Pb^{2+}-30** (w = 3.2 %), oNPOE (w = 64 %), PVC (w = 32 %), KTpClPB(x_i = 28 %)	Li^+, –1.7; Na^+, +0.0; K^+, –0.6; Mg^{2+}, –4.5; Ca^{2+}, –3.2; Fe^{2+}, –3.9; Ni^{2+}, –3.6; Cu^{2+}, –4.3; Fe^{3+}, –3.4	FIM	–	–	28.5	10^{-6} –10^{-3}	r.o.o.g.	[15]
Pb^{2+}-31	**Pb^{2+}-31** (w = 3.2 %), oNPOE (w = 64 %), PVC (w = 32 %), KTpClPB(x_i = 43 %)	Li^+, –1.2; Na^+, +0.2; K^+, –0.5; Mg^{2+}, –4.5; Ca^{2+}, –3.0; Fe^{2+}, –3.0; Ni^{2+}, –3.2; Cu^{2+}, –3.2; Fe^{3+}, –3.4	FIM	–	–	–	–	r.o.o.g.	[15]
Pb^{2+}-32	**Pb^{2+}-32** (w = 1 %), oNPOE (w = 65–66 %), PVC (w = 33 %), KTpClPB (x_i = 50 %)	Cd^{2+}, –2.35 Ca^{2+}, –1.1; Cu^{2+}, –1.9; Cd^{2+}, –2.10	FIM SSM	– 0.01	– 0.01	19.9	–	r.o.o.g.; $c_{dl} = 10^{-3.40}$ M	[16]
Pb^{2+}-33	**Pb^{2+}-33** (w = 1 %), oNPOE (w = 65–66 %), PVC (w = 33 %), KTpClPB (x_i = 50 %)	Cd^{2+}, –2.60 Ca^{2+}, –1.4; Cu^{2+}, –2.4; Cd^{2+}, –2.60	FIM SSM	– 0.01	– 0.01	22.3	–	r.o.o.g.; $c_{dl} = 10^{-3.75}$ M	[16]
Pb^{2+}-34	**Pb^{2+}-34** (w = 1 %), oNPOE (w = 65–66 %), PVC (w = 33 %), KTpClPB (x_i = 50 %)	Cd^{2+}, –2.35 Ca^{2+}, –1.2; Cu^{2+}, –2.4; Cd^{2+}, –2.45	FIM SSM	– 0.01	– 0.01	24.3	–	r.o.o.g.; $c_{dl} = 10^{-3.5}$ M	[16]
Pb^{2+}-35	**Pb^{2+}-35** (w = 1 %), oNPOE (w = 65–66 %), PVC (w = 33 %), KTpClPB (x_i = 50 %)	Cd^{2+}, –1.65 Ca^{2+}, –0.3; Cu^{2+}, –1.0; Cd^{2+}, –1.60	FIM SSM	– 0.01	– 0.01	–	–	r.o.o.g.; $c_{dl} = 10^{-2.8}$ M	[16]
Pb^{2+}-36	**Pb^{2+}-36** (w = 1 %), oNPOE (w = 65–66 %), PVC (w = 33 %), KTpClPB (x_i = 50 %)	Cd^{2+}, –2.10 Ca^{2+}, –1.5; Cu^{2+}, –1.8; Cd^{2+}, –1.95	FIM SSM	– 0.01	– 0.01	24.1	–	r.o.o.g. $c_{dl} = 10^{-3.25}$ M	[16]

Table 18: Pb^{2+}-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{Pb^{2+},B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/ decade)	linear range (M)	remarks	ref.
Pb^{2+}-37	**Pb^{2+}-37** (w = 1 %), oNPOE (w = 65–66 %), PVC (w = 33 %), KTpClPB (x_i = 50 %)	Cd^{2+}, –2.50 Ca^{2+}, –1.5; Cu^{2+}, –2.3; Cd^{2+}, –2.45	FIM SSM	– 0.01	– 0.01	22.2	–	r.o.o.g.; $c_{dl} = 10^{-3.65}$ M	[16]
Pb^{2+}-38	**Pb^{2+}-38** (w = 1 %), oNPOE (w = 65–66 %), PVC (w = 33 %), KTpClPB (x_i = 50 %)	Cd^{2+}, –1.40 Ca^{2+}, +0.2; Cu^{2+}, –0.3; Cd^{2+}, –1.45	FIM SSM	– 0.01	– 0.01	18.0	–	r.o.o.g.; $c_{dl} = 10^{-2.6}$ M	[16]
Pb^{2+}-39	**Pb^{2+}-39** (w = 1.1 %), DBP (w = 65.9 %), PVC (w = 33.0 %)	Na^+, +0.71; K^+, +0.98; Mg^{2+}, –2.32; Ca^{2+}, –2.56; Sr^{2+}, –2.67; Ba^{2+}, –2.56; Ni^{2+}, –2.24; Co^{2+}, –2.90; Cu^{2+}, –2.08; Zn^{2+}, –2.51; Cd^{2+}, –2.43	FIM	–	10^{-2}	30.9	2.8×10^{-6} -9.1×10^{-4}	unbuffered solution; $c_{dl} = 2.0 \times 10^{-6}$ M t_{resp} = 40 s	[17]
		Na^+, +0.79; Mg^{2+}, –2.62; Ca^{2+}, –2.46; Sr^{2+}, –2.57; Ba^{2+}, –2.62; Ni^{2+}, –2.48; Co^{2+}, –2.60; Cu^{2+}, –1.85; Zn^{2+}, –2.62; Cd^{2+}, –2.45	FIM	–	10^{-2}	29.4	3.8×10^{-6} -1.1×10^{-3}	2×10^{-2} M; Tris/HCl; pH = 6.0; $c_{dl} = 3.0 \times 10^{-6}$ M; t_{resp} = 40 s	[17]
	Pb^{2+}-39 (w = 1.1 %), oNPOE (w = 65.9 %), PVC (w = 33.0 %)	Na^+, +0.65; K^+, +0.87; Mg^{2+}, –2.74; Ca^{2+}, –2.57; Sr^{2+}, –2.84; Ba^{2+}, –2.77; Ni^{2+}, –2.87; Co^{2+}, –2.72; Cu^{2+}, –1.78; Zn^{2+}, –2.64	FIM	–	10^{-2}	30.4	2.8×10^{-6} -4.6×10^{-3}	2×10^{-2} M; Tris/HCl; pH = 6.0; $c_{dl} = 2.3 \times 10^{-6}$ M; t_{resp} = 15 s	[17]
Pb^{2+}-40	**Pb^{2+}-40** (w = 2 %), oNPOE ($w \approx 65$ %), PVC ($w \approx 32$ %), KTpClPB (x_i = 60 %)	K^+, –2.4; Ca^{2+}, –3.7; Cu^{2+}, –1.7; Cd^{2+}, –1.9	FIM	–	0.1 0.01	–	–	ISFET; pH = 4	[13]
Pb^{2+}-41	**Pb^{2+}-41** (w = 2.1 %), BBPA ($w \approx 65$ %), PVC ($w \approx 32$ %), KTpClPB (x_i = 76 %)	K^+, interferes; Ca^{2+}, –2.4; Cu^{2+}, –2.3; Cd^{2+}, –2.7	FIM	–	0.1	30	–	ISFET; pH = 4	[13]
Pb^{2+}-42	**Pb^{2+}-42** (w = 2 %), BBPA ($w \approx 65$ %), PVC ($w \approx 32$ %), KTpClPB (x_i = 73 %)	K^+, interferes; Ca^{2+}, –3.2; Cu^{2+}, –3.0; Cd^{2+}, –3.3	FIM	–	0.1	60	–	ISFET; pH = 4	[13]

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Table 18: Pb^{2+}-Selective Electrodes (*Continued*)

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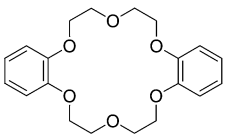
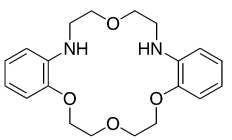
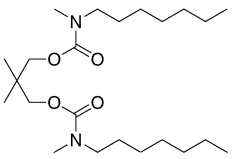


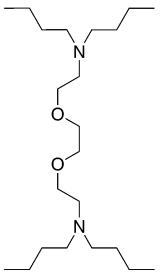
Pb^{2+}-1 (M_r = 360.41)

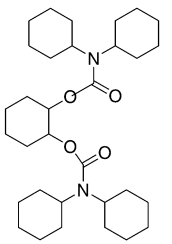


Pb^{2+}-2 (M_r = 358.33)

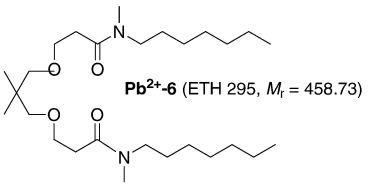


Pb^{2+}-4 (ETH 149, M_r = 402.62)

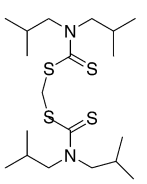




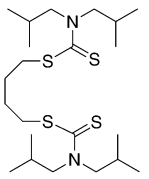
Pb^{2+}-3 (M_r = 372.64) **Pb^{2+}-5** (ETH 2120, M_r = 530.80)



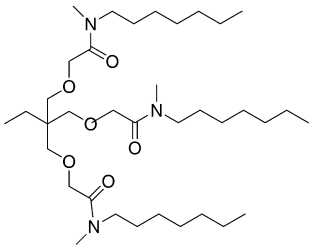
Pb^{2+}-6 (ETH 295, M_r = 458.73)



Pb^{2+}-8 (M_r = 422.77)

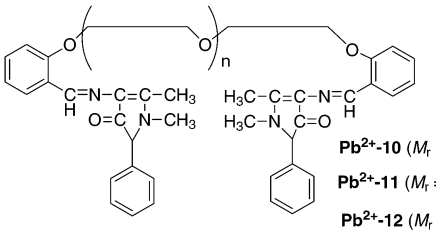


Pb^{2+}-9 (M_r = 464.85)

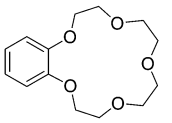


Pb^{2+}-7 (ETH 227, M_r = 641.98)

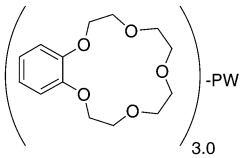
Table 18: Pb^{2+}-Selective Electrodes (*Continued*)



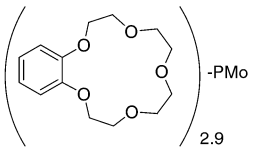
Pb^{2+}-10 (M_r = 682.82): n=1
Pb^{2+}-11 (M_r = 726.88): n=2
Pb^{2+}-12 (M_r = 770.09): n=3



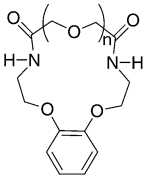
Pb^{2+}-13 (M_r = 268.31)



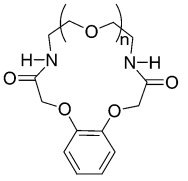
PW; Phosphotungstic acid
Pb^{2+}-14 (M_r = 3685.11)



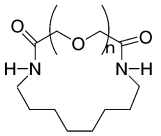
PMo; Phosphomolybdic acid
Pb^{2+}-15 (M_r = 2603.35)



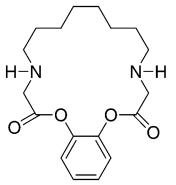
Pb^{2+}-16 (M_r = 382.42): n=3
Pb^{2+}-17 (M_r = 338.36): n=2
Pb^{2+}-18 (M_r = 294.31): n=1



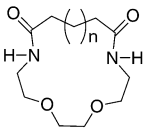
Pb^{2+}-19 (M_r = 382.42): n=3



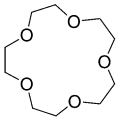
Pb^{2+}-20 (M_r = 330.43): n=3
Pb^{2+}-21 (M_r = 286.37): n=2
Pb^{2+}-22 (M_r = 242.32): n=1



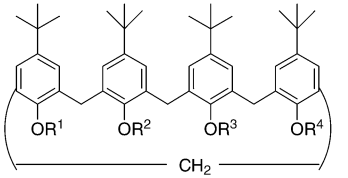
Pb^{2+}-23 (M_r = 334.42)



Pb^{2+}-24 (M_r = 240.35): n=3
Pb^{2+}-25 (M_r = 226.32): n=2
Pb^{2+}-26 (M_r = 212.29): n=1



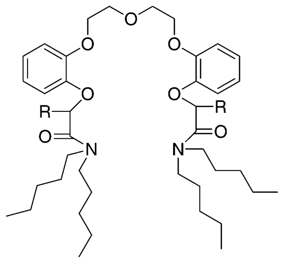
Pb^{2+}-29 (M_r = 220.32)



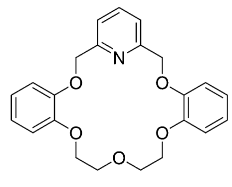
Pb^{2+} -27 (M_r = 1053.61): $R^1=R^2=R^3=R^4=CH_2C(S)N(CH_3)_2$
Pb^{2+} -28 (M_r = 935.43): $R^1=R^3=C_3H_7$, $R^2=R^4=CH_2C(S)N(CH_3)_2$
Pb^{2+} -40 (M_r = 851.27): $R^1=R^3=H$, $R^2=R^4=CH_2C(S)N(CH_3)_2$
Pb^{2+} -41 (M_r = 991.42): $R^1=R^3=C_3H_7$, $R^2=R^4=CH_2CH_2OCH_2C(O)N(CH_3)_2$
Pb^{2+} -42 (M_r = 903.31): $R^1=R^3=C_3H_7$, $R^2=R^4=CH_2C(O)N(CH_3)_2$

continues on next page

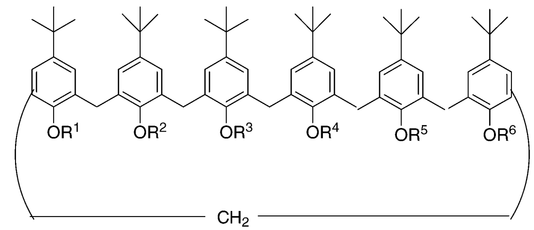
Table 18: Pb^{2+}-Selective Electrodes (*Continued*)



Pb^{2+}-30 (M_r = 684.97): R=H
Pb^{2+}-31 (M_r = 1077.72): R=$C_{14}H_{29}$



Pb^{2+} -39
(M_r = 393.44)



Pb^{2+} -32 (M_r = 1125.55): R^1=P(S)(OC_2H_5)$_2$, R^2=R^3=R^4=R^5=R^6=H
Pb^{2+} -33 (M_r = 1277.70): R^1= R^3= P(S)(OC_2H_5)$_2$, R^2=R^4=R^5=R^6=H
Pb^{2+} -34 (M_r = 1277.70): R^1= R^4= P(S)(OC_2H_5)$_2$, R^2=R^3=R^5=R^6=H
Pb^{2+} -35 (M_r = 1734.15): R^1= R^2= R^3=R^4= R^5= P(S)(OC_2H_5)$_2$, R^6=H
Pb^{2+} -36 (M_r = 1333.81): R^1= R^4= P(S)(OC_2H_5)$_2$, R^2=R^3= R^5= R^6=CH_3
Pb^{2+} -37 (M_r = 1471.93): R^1= R^3= R^5=P(S)(OC_2H_5)$_2$, R^2= R^4= R^6=CH_3
Pb^{2+} -38 (M_r = 1610.05): R^1= R^2= R^3= R^4=P(S)(OC_2H_5)$_2$, R^5= R^6=CH_3