

Table 4: K⁺-Selective Electrodes

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
K⁺-1	K⁺-1 (<i>w</i> = 2.0 %), KTPCIPB (<i>x_i</i> = 55 %), BBPA (<i>w</i> = 65.5 %), PVC (<i>w</i> = 33.0 %)	Li ⁺ , -4.0; Na ⁺ , -4.0; NH ₄ ⁺ , -1.9; Ca ²⁺ , -5.9; Mg ²⁺ , -6.2	SSM	-	-	57.4	-	Pt CWE; [1] Pt was coated with poly(vinyl ferrocene); <i>c_{dl}</i> = 5 × 10 ⁻⁷ M	
	K⁺-1	Li ⁺ , -5.2; Na ⁺ , -4.3; NH ₄ ⁺ , -2.0; Ba ²⁺ , -4.7; Ca ²⁺ , -4.7	FIM	-	0.1; NH ₄ ⁺ , 0.01	59.0	-	Orion 93-19 [2] K ⁺ -ISE; 2 < pH < 12	
	K⁺-1 (<i>w</i> = 3 %), silicone rubber (<i>w</i> = 97 %)	Na ⁺ , <-3.7	FIM	-	0.10	56	-	ISFET [11,14]	
	K⁺-1 (<i>w</i> = 3 %), silicone rubber (<i>w</i> ≈ 97 %), KTPCIPB (<i>x_i</i> = 67 %)	Na ⁺ , <-3.7	FIM	-	0.10	56	-	ISFET [11,14]	
	K⁺-1 (<i>w</i> = 3 %), silicone rubber (<i>w</i> = 88.2 %), crosslinking agent (<i>w</i> = 8.8 %)	Na ⁺ <-3.7	FIM	-	0.10	56	-	ISFET [11,14]	
	K⁺-1 (<i>w</i> = 3 %), silicone rubber (<i>w</i> ≈ 88 %), crosslinking agent (<i>w</i> ≈ 8.8 %), KTPCIPB (<i>x_i</i> = 67 %)	Na ⁺ <-3.7	FIM	-	0.10	55	-	ISFET [11,14]	
	K⁺-1 (<i>w</i> = 1.0 %), BBPA (<i>w</i> = 66.0 %), PVC (<i>w</i> = 33.0 %)	Li ⁺ , -4.3; Na ⁺ , -4.0; Rb ⁺ , 0.0; Cs ⁺ , -0.4; NH ₄ ⁺ , -2.0; H ⁺ -4.2; Mg ²⁺ , -4.8; Ca ²⁺ , -4.6; Sr ²⁺ -4.4; Ba ²⁺ , -4.5	-	-	-	59.8 ± 0.1	10 ⁻⁴ -10 ⁻¹	22 °C [12]	
	K⁺-1 (<i>w</i> = 1.3 %), DOS (<i>w</i> = 68.3 %), PVC (<i>w</i> = 30.4 %)	Li ⁺ , -4.7; Na ⁺ , -3.7; Rb ⁺ , +0.4; Cs ⁺ , -0.4; NH ₄ ⁺ , -1.9; H ⁺ , -4.1; Mg ²⁺ , -4.6; Ca ²⁺ , -4.8; Sr ²⁺ , -4.9; Ba ²⁺ , -5.4	-	-	-	59.2 ± 0.1	10 ⁻⁴ -10 ⁻¹	22 °C [12]	
K⁺-1 (<i>w</i> = 2.5 %), silicone rubber (<i>w</i> = 83.0 %), cross-linking agent (<i>w</i> = 14.5 %)	Li ⁺ , -4.3; Na ⁺ , -4.0; Rb ⁺ , +0.6; Cs ⁺ , -0.2; NH ₄ ⁺ , -1.8; H ⁺ , -4.4; Mg ²⁺ , -4.3; Ca ²⁺ , -4.2; Sr ²⁺ , -4.2; Ba ²⁺ , -3.8	-	-	-	59.5 ± 0.2	10 ⁻⁴ -10 ⁻¹	22 °C; [12] minielectrode		

Table 4: K⁺-Selective Electrodes (Continued)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
	K⁺-1 (<i>w</i> = 1.0 %), BEHS (<i>w</i> = 66.0 %), PVC (<i>w</i> = 33.0 %)	Li ⁺ , -4.15; Na ⁺ , -4.77; Rb ⁺ , +0.47; Cs ⁺ , -0.39; NH ₄ ⁺ , -1.84; H ⁺ , -3.31; Mg ²⁺ , -5.22; Ca ²⁺ , -5.40; Sr ²⁺ , -5.30; Ba ²⁺ , -5.15	FIM	–	0.15; H ⁺ , 0.1	–	–	25 °C	[13]
	K⁺-1 (<i>w</i> = 1.0 %), bis(2-ethylhexyl) adipate (<i>w</i> = 66.0 %), PVC (<i>w</i> = 33.0 %)	Li ⁺ , -4.11; Na ⁺ , -4.60; Rb ⁺ , +0.453; Cs ⁺ , -0.409; NH ₄ ⁺ , -1.85; H ⁺ , -2.46; Mg ²⁺ , -5.10; Ca ²⁺ , -5.15; Sr ²⁺ , -5.15; Ba ²⁺ , -4.05	FIM	–	0.15; H ⁺ , 0.1	–	–	25 °C	[13]
	K⁺-1 (<i>w</i> = 3.0 %), adipic acid polyester (<i>w</i> = 67.0 %), PVC (<i>w</i> = 30.0 %)	Li ⁺ , -2.91; Na ⁺ , -3.08; Rb ⁺ , +0.927; Cs ⁺ , -2.63; NH ₄ ⁺ , -1.63; H ⁺ , -1.71; Mg ²⁺ , -4.24; Ca ²⁺ , -5.17; Sr ²⁺ , -4.14; Ba ²⁺ , -4.16	FIM	–	0.15; H ⁺ , 0.1	–	–	25 °C	[13]
	K⁺-1 (<i>w</i> = 3.0 %), BEHS (<i>w</i> = 67.0 %), PVC (<i>w</i> = 30.0 %)	Li ⁺ , -4.96; Na ⁺ , -4.68; Rb ⁺ , +0.480; Cs ⁺ , -0.332; NH ₄ ⁺ , -1.80; H ⁺ , -4.67; Mg ²⁺ , -6.56; Ca ²⁺ , -5.52; Sr ²⁺ , -6.12; Ba ²⁺ , -6.46	FIM	–	0.15; H ⁺ , 0.1	–	–	25 °C	[13]
	K⁺-1 (<i>w</i> = 2.4 %), BEHS (<i>w</i> = 66.4 %), PVC (<i>w</i> = 30.0 %), KTPClPB (<i>x</i> _i = 88 %)	Li ⁺ , -1.38; Na ⁺ , -0.991; Rb ⁺ , +0.217; Cs ⁺ , +0.534; NH ₄ ⁺ , -0.656; H ⁺ , -2.42; Mg ²⁺ , -3.88; Ca ²⁺ , -2.41; Sr ²⁺ , -3.61; Ba ²⁺ , -3.54	FIM	–	0.15; H ⁺ , 0.1	–	–	25 °C	[13]
	K⁺-1 (<i>w</i> = 3.0 %), BEHS (<i>w</i> = 66.7 %), PVC (<i>w</i> = 30.0 %), KTPClPB (<i>x</i> _i = 22 %)	Li ⁺ , -4.56; Na ⁺ , -4.32; Rb ⁺ , +0.461; Cs ⁺ , -0.357; NH ₄ ⁺ , -1.78; H ⁺ , -3.79; Mg ²⁺ , -5.36; Ca ²⁺ , -5.14; Sr ²⁺ , -5.30; Ba ²⁺ , -5.35	FIM	–	0.15; H ⁺ , 0.1	–	–	25 °C	[13]
	K⁺-1 (1 mg), oNPOE (100 μL), KTPClPB (<i>x</i> _i = 94 %), cellulose triacetate (109 mg)	Na ⁺ , -2.96 ± 0.2	FIM	–	0.10	52 ± 3	10 ⁻⁴ –10 ⁻²	25 °C; <i>c</i> _{dl} = (4.1 ± 1.0) × 10 ⁻⁵ M	[20]

continues on next page

Table 4: K⁺-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
	K⁺-1 (1 mg), oNPOE (100 μ L), KTpCIPB ($x_i = 94$ %), cellulose triacetate (109 mg)	Na ⁺ , -3.16 ± 0.1	FIM	–	0.10	50 ± 1	10^{-4} – 10^{-2}	25 °C; $c_{dl} = (5.6 \pm 0.2) \times 10^{-5}$ M; Electrodes were coated with heparin.	[20]
	K⁺-1 (1 mg), oNPOE (100 μ L), KTpCIPB ($x_i = 94$ %), cellulose triacetate (109 mg), carbonyl hydrolysed in 1M NaOH (324 mg)	Na ⁺ , -3.08 ± 0.1	FIM	–	0.10	51 ± 1	10^{-4} – 10^{-2}	25 °C; $c_{dl} = (6.3 \pm 0.4) \times 10^{-5}$ M; Electrodes were coated with heparin.	[20]
	K⁺-1 ($w = 2.7$ %), fluorosilicone rubber ($w = 96.6$ %), KTpCIPB ($x_i = 50$ %)	Li ⁺ , -4.3 ; Na ⁺ , -3.8 ; Ca ²⁺ , -4.1	FIM	–	0.1	57.33 ± 1.43	9.9×10^{-5} – 10^{-1}	room temp.; $c_{dl} = 10^{-6}$ M; ISFET	[21]
	K⁺-1 ($w = 2.5$ %), silicone rubber ($w = 83.0$ %), crosslinking agent ($w = 14.5$ %)	Li ⁺ , -4.3 ; Na ⁺ , -4.0 ; Rb ⁺ , $+0.6$; Cs ⁺ , -0.2 ; NH ₄ ⁺ , -1.8 ; H ⁺ , -4.4 ; Mg ²⁺ , -4.3 ; Ca ²⁺ , -4.2 ; Sr ²⁺ , -4.2 ; Ba ²⁺ , -3.8	SSM	0.1	0.1	59.5 ± 0.2	9×10^{-5} – 10^{-1}	20 °C	[23]
	K⁺-1 ($w = 1.5$ %), KTpCIPB or NaTFPB ($x_i = 50$ %), decyl methacrylate ($w = 22$ %), TDDMACl ($w = 4.9$ %), 1,6-hexanediyl dimethacrylate ($w = 29$ %), benzophenone ($w = 1$ %), benzoyl peroxide ($w = 2$ %), DOS ($w = 39$ %)	Na ⁺ , -3.88 ± 0.03 ; Rb ⁺ , $+0.48 \pm 0.05$; NH ₄ ⁺ , -1.85 ± 0.04	SSM	0.01	0.01	57.1 ± 0.9	–	22 °C; $t_{resp} < 10$ s; $c_{dl} = 10^{-5.95 \pm 0.02}$ M	[24]
	K⁺-1 ($w = 0.9$ %), oNPOE ($w = 67.3$ %), PVC ($w = 31.8$ %)	Li ⁺ , -2.88 ; Na ⁺ , -3.02 ; Mg ²⁺ , -3.96 ; Ca ²⁺ , -3.80	SSM	0.01	0.01	59.6	–	25 ± 0.5 °C; $c_{dl} = 8.0 \times 10^{-6}$ M	[25]
	K⁺-1 ($w = 1.5$ %), DOS ($w = 8.0$ %), aliphatic polyurethane ($w = 90.1$ %), KTpCIPB ($x_i = 60$ %)	Na ⁺ , -3.8 ; Ca ²⁺ , -4.6	FIM	–	Na ⁺ , 0.150; Ca ²⁺ , 0.100	56.8 ± 0.2	–	22.0 ± 1.0 °C; $c_{dl} = 10^{-4.7}$ M	[26]
	K⁺-1 ($w = 1.5$ %), DOS ($w = 8.0$ %), aliphatic polyurethane ($w = 90.1$ %), KTpCIPB ($x_i = 60$ %)	Na ⁺ , -3.8 ; Ca ²⁺ , -4.5	FIM	–	Na ⁺ , 0.150; Ca ²⁺ , 0.100	54.6 ± 0.6	–	22.0 ± 1.0 °C; $c_{dl} = 10^{-4.7}$ M; $t_{resp} < 10$ s; Electrodes were coated with photo cured poly (ethylene oxide)	[26]

Table 4: K⁺-Selective Electrodes (Continued)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
	K⁺-1 (<i>w</i> = 1.5 %), DOS (<i>w</i> = 8.0 %), KTpCIPB (<i>x_i</i> = 60 %), aliphatic polyurethane (<i>w</i> = 80.1 %), block copolymer of poly(ethylene oxide) and poly(propylene oxide) (<i>w</i> = 10.0 %)	Na ⁺ , -3.5; Ca ²⁺ , -4.2	FIM	–	Na ⁺ , 0.150 Ca ²⁺ , 0.100	53.2 ± 0.6	–	22.0 ± 1.0 °C; <i>c_{dl}</i> = 10 ^{-4.4} M	[26]
	K⁺-1 (<i>w</i> = 1 %), DOA (<i>w</i> = 66 %), PVC (<i>w</i> = 33 %)	Na ⁺ , -4.28	SSM	–	–	57.2	10 ⁻⁵ –10 ⁻¹	<i>c_{dl}</i> = 5.8 × 10 ⁻⁷ M	[27]
	K⁺-1 (<i>w</i> = 1 %), DOA (<i>w</i> = 59 %), PVC (<i>w</i> = 20 %), PVC/poly(vinyl acetate)/poly(vinyl alcohol) copolymer (16:1:3 by weight; <i>w</i> = 20 %)	Na ⁺ , -4.22	SSM	–	–	57.3	–	<i>c_{dl}</i> = 5.2 × 10 ⁻⁷ M	[27]
	K⁺-1 (<i>w</i> = 1 %), DOA (<i>w</i> = 66 %), aliphatic polyurethane (<i>w</i> = 26.4 %), PVC/poly(vinyl acetate)/poly(vinyl alcohol) copolymer (16:1:3 by weight; <i>w</i> = 6.6 %)	Na ⁺ , -4.21	SSM	–	–	57.2	–	<i>c_{dl}</i> = 5.9 × 10 ⁻⁷ M	[27]
	K⁺-1 (<i>w</i> = 1 %), polydimethyl siloxane silanol terminated (<i>w</i> = 78 %), (cyanopropyl) methyl/dimethyl siloxane copolymer (10–12:88–90; <i>w</i> = 21 %), KTpCIPB (<i>x_i</i> = 76 %)	Na ⁺ , -4.16	SSM	–	–	56.5	–	<i>c_{dl}</i> = 1.0 × 10 ⁻⁶ M	[27]
	K⁺-1 , DOS, PVC-COOH, KTpCIPB (weight ratio not reported)	Li ⁺ , -4.4; Na ⁺ , -3.6; NH ₄ ⁺ , -1.8; Ca ²⁺ , -4.6	FIM	–	–	58.3 ± 0.2 57.7 ± 0.2 [†]	10 ⁻⁵ –10 ⁻¹	22.5 ± 0.5 °C; <i>c_{dl}</i> = 4.0 × 10 ⁻⁶ M; 6 < pH < 9; <i>τ</i> > 30 d	[31]
	K⁺-1 (membrane composition not reported)	Na ⁺ , <-6; NH ₄ ⁺ , -0.845; Ca ²⁺ , -2.27	–	–	–	–	–		[32]
	K⁺-1 (<i>w</i> = 1 %), fluorosilicone rubber (<i>w</i> = 98.7 %), KTpCIPB (<i>x_i</i> = 67 %)	Li ⁺ , -3.7; Na ⁺ , -4.2; NH ₄ ⁺ , -1.9; Mg ²⁺ , -4.7; Ca ²⁺ , -4.7	SSM	0.01	0.01	55.7	–	ISFET; 25 °C; <i>c_{dl}</i> = 1 × 10 ⁻⁶ M	[33]

† in 0.14 M Na⁺.

†† after storage over 3 months.

continues on next page

Table 4: K⁺-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
	K⁺-1 (<i>w</i> = 1.3 %), fluorosilicone rubber (<i>w</i> = 98.3 %), KTFPB (<i>x_i</i> = 36 %)	Li ⁺ , -4.1, -3.5 ^{††} ; Na ⁺ , -4.5, -3.2 ^{††} ; NH ₄ ⁺ , -2.4, -1.8 ^{††} ; Mg ²⁺ , -5.1, -3.5 ^{††} ; Ca ²⁺ , -4.9, -4.5 ^{††}	SSM	0.01	0.01	57.6 56.6 ^{††}	–	ISFET; 25 °C; <i>c_{dl}</i> = 1 × 10 ⁻⁷ M, 5 × 10 ⁻⁷ M ^{††} ;	[33]
	K⁺-1 (<i>w</i> = 1.4 %), silicone rubber (<i>w</i> = 98.6 %)	Na ⁺ , -3.7; Ca ²⁺ , -3.7	FIM	–	0.1	55.0	–	22 ± 2 °C	[34]
	K⁺-1 (<i>w</i> = 1.0 %), KTPClPB (<i>x_i</i> = 45 %), silicone rubber (<i>w</i> = 98.8 %)	Na ⁺ , -3.6; Ca ²⁺ , -3.7	FIM	–	0.1	56.0	–	22 ± 2 °C	[34]
	K⁺-1 (<i>w</i> = 1.1 %), DOS (<i>w</i> = 5.0 %), KTPClPB (<i>x_i</i> = 41 %), silicone rubber (<i>w</i> = 93.7 %)	Na ⁺ , -3.6; Ca ²⁺ , -3.7	FIM	–	0.1	57.0	–	22 ± 2 °C	[34]
	K⁺-1 (<i>w</i> = 1.2 %), KTFPB (<i>x_i</i> = 44 %), silicone rubber (<i>w</i> = 98.5 %)	Na ⁺ , -3.8; Ca ²⁺ , -3.9	FIM	–	0.1	57.4	–	22 ± 2 °C	[34]
	K⁺-1 (<i>w</i> = 1.0 %), DOS (<i>w</i> = 6.0 %), KTFPB (<i>x_i</i> = 71 %), silicone rubber (<i>w</i> = 92.6 %)	Na ⁺ , -3.9; Ca ²⁺ , -4.0	FIM	–	0.1	57.7	–	22 ± 2 °C	[34]
	K⁺-1 (<i>w</i> = 1.1 %), KTPClPB (<i>x_i</i> = 41 %), silicone rubber (<i>w</i> = 98.7 %)	Na ⁺ , -3.7; Ca ²⁺ , -3.6	FIM	–	0.1	56.5	–	22 ± 2 °C; solid-state sensor	[34]
	K⁺-1 (<i>w</i> = 1.0 %), KTFPB (<i>x_i</i> = 35 %), silicone rubber (<i>w</i> = 98.8 %)	Na ⁺ , -3.8; Ca ²⁺ , -4.0	FIM	–	0.1	58.6	–	22 ± 2 °C; solid-state sensor	[34]
	K⁺-1 (<i>w</i> = 1.0 %), DOS (<i>w</i> = 4.5 %), silicone rubber (<i>w</i> = 94.3 %), KTFPB (<i>x_i</i> = 35 %)	Na ⁺ , -3.7; Ca ²⁺ , -3.9	FIM	–	0.1	58.2	–	22 ± 2 °C; solid-state sensor	[34]
K⁺-2	K⁺-2 (<i>w</i> = 3 %), DBS (<i>w</i> = 70 %), PVC (<i>w</i> = 27 %)	Li ⁺ , -2.2; Na ⁺ , -1.9; Rb ⁺ , -0.4; Cs ⁺ , -1.3; Mg ²⁺ , -3.8; Ca ²⁺ , -3.7; Sr ²⁺ , -3.1; Ba ²⁺ , -0.2	SSM	0.1	0.1	56	10 ^{-4.3} –10 ^{-1.5}	25.0 ± 0.1 °C; [17] r.o.o.g.; <i>t_{resp}</i> < 30 s	
K⁺-3	K⁺-3 (<i>w</i> = 5 %), PVC (<i>w</i> = 32 %), oNPOE (<i>w</i> = 63 %)	Na ⁺ , -2.7; Rb ⁺ , -0.40; Cs ⁺ , -0.52; NH ₄ ⁺ , -1.5	FIM	–	0.1, 0.01	53	10 ^{-3.5} –10 ^{-1.5}	25.0 ± 0.1 °C [4]	

† in 0.14 M Na⁺.

†† after storage over 3 months.

Table 4: K⁺-Selective Electrodes (Continued)

ionophore	membrane composition	lgK _{K⁺,Bⁿ⁺}	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
K⁺-4	K⁺-4 (w = 2 %), oNPOE (w = 65 %), PVC (w = 33 %)	Li ⁺ , -3.90; NH ₄ ⁺ , -1.92;	SSM	0.1	0.1	55.9	10 ⁻⁴ –10 ⁻¹	20 ± 2 °C; [19] r.o.o.g.	
		Mg ²⁺ , -4.35; Ca ²⁺ , -3.50	FIM	–	–				
	K⁺-4 (w = 0.9 %), PVC (w = 31.8 %), BBPA (w = 67.3 %)	Na ⁺ , -3.16	SSM	0.01	0.01	52.0	–	25 ± 0.5 °C; [25] c _{dl} = 7.6 × 10 ⁻⁶ M	
		K⁺-4 (w = 0.9 %), PVC (w = 31.8 %), DOA (w = 67.3 %)	Li ⁺ , -3.23; Na ⁺ , -2.72; Mg ²⁺ , -4.18; Ca ²⁺ , -4.21	SSM	0.01	0.01	60.0	–	25 ± 0.5 °C; [25] c _{dl} = 7.5 × 10 ⁻⁶ M
	K⁺-4 (w = 0.9 %), PVC (w = 31.8 %), DOS (w = 67.3 %)	Li ⁺ , -3.25; Na ⁺ , -2.53;	SSM	0.01	0.01	60.5	–	25 ± 0.5 °C; [25] c _{dl} = 2.5 × 10 ⁻⁶ M	
		Mg ²⁺ , -4.08; Ca ²⁺ , -4.20							
	K⁺-4 (w = 0.9 %), PVC (w = 31.8 %), oNPOE (w = 67.3 %)	Li ⁺ , -3.28; Na ⁺ , -2.58;	SSM	0.01	0.01	61.0	–	25 ± 0.5 °C; [25] c _{dl} = 3.2 × 10 ⁻⁶ M	
		Mg ²⁺ , -4.04; Ca ²⁺ , -4.00							
	K⁺-4 (w = 0.9 %), PVC (w = 32 %), bis(2-ethylhexyl) adipate (w = 67 %), KTpCIPB (x _i = 50 %)	Na ⁺ , -2.67	SSM	0.01	0.01	45.5	–	25 ± 0.5 °C; [25] c _{dl} = 5.5 × 10 ⁻⁶ M	
		K⁺-4 (w = 0.9 %), DOS (w = 67.0 %), PVC (w = 31.6 %), KTpCIPB (x _i = 50 %)	Li ⁺ , -3.16; Na ⁺ , -3.05; Mg ²⁺ , -4.09; Ca ²⁺ , -3.94	SSM	0.01	0.01	57.5	–	25 ± 0.5 °C; [25] c _{dl} = 3.5 × 10 ⁻⁶ M
K⁺-4 (w = 0.9 %), PVC (w = 31.6 %), oNPOE (w = 67.0 %), KTpCIPB (x _i = 50 %)	Li ⁺ , -3.14; Na ⁺ , -3.08;	SSM	0.01	0.01	59.2	–	25 ± 0.5 °C; [25] c _{dl} = 7.5 × 10 ⁻⁶ M		
	Mg ²⁺ , -3.92; Ca ²⁺ , -3.88								
K⁺-5	K⁺-5 (w = 3.8 %), oNPOE (w = 64.2 %), PVC (w = 32.0 %)	Na ⁺ , -3.7; Rb ⁺ , -0.70; Cs ⁺ , -2.0; NH ₄ ⁺ , -1.4	FIM	–	NH ₄ ⁺ , 0.01; – Rb ⁺ , Cs ⁺ , 0.001; Na ⁺ , 1	–	10 ⁻⁴ –10 ⁻¹	25.0 ± 0.1 °C; [3,4] t _{resp} < 10 s	
K⁺-6	K⁺-6 (w = 0.3–0.4 %), DBP (w = 81 %), PVC (w = 19 %)	Li ⁺ , -5.0; Na ⁺ , -4.0; Cs ⁺ , -2.0; NH ₄ ⁺ , -2.1; Mg ²⁺ , -4.0; Ca ²⁺ , -2.9; Sr ²⁺ , -2.9; Ba ²⁺ , -5.0; Zn ²⁺ , -5.0; Cu ²⁺ , -2.5	SSM	–	–	52 ± 1	10 ⁻⁴ –1	t _{resp} = [5] 30–60 s; c _{dl} = 2.0 × 10 ⁻⁵ M	
K⁺-7	K⁺-7 (w = 0.4–0.5 %), DOP (w = 77–80 %), PVC (w = 20–23 %)	Li ⁺ , -5.0; Na ⁺ , -4.0; Cs ⁺ , -5.0; NH ₄ ⁺ , -1.9; Mg ²⁺ , -5.0; Ca ²⁺ , -5.0; Sr ²⁺ , -5.0; Ba ²⁺ , -5.0; Zn ²⁺ , -5.0	SSM or FIM	–	–	30 ± 1	10 ⁻⁵ –10 ⁻¹	c _{dl} = 3.2 [6] × 10 ⁻⁶ M	

continues on next page

Table 4: K⁺-Selective Electrodes (Continued)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
K⁺-8	K⁺-8 (w = 1 %), BEHS (w = 66 %), PVC (w = 33 %)	H ⁺ , -3.22; Li ⁺ , -3.40; Na ⁺ , -3.04; NH ₄ ⁺ , -1.97; Mg ²⁺ , -2.64; Ca ²⁺ , -4.12	SSM	0.1	0.1	58.48	–	r.o.o.g.; <i>t</i> _{resp} = 43.6 ms, [†] 38.4 ms ^{††}	[7]
	K⁺-8 (w = 1 %), BEHS (w = 66 %), PVC-COOH (w = 33 %)	H ⁺ , -3.20; Li ⁺ , -3.54; NH ₄ ⁺ , -2.16; Mg ²⁺ , -2.76; Ca ²⁺ , -4.32	SSM	0.1	0.1	58.89	–	r.o.o.g.; <i>t</i> _{resp} = 35.0 ms, [†] 52.9 ms ^{††}	[7]
	K⁺-8 (w = 1 %), BEHS (w = 66 %), PVC (w = 33 %), KTpCIPB (x _i = 75 %)	H ⁺ , -3.52; Li ⁺ , -3.56; Na ⁺ , -3.16; NH ₄ ⁺ , -2.18; Mg ²⁺ , -2.76; Ca ²⁺ , -4.38	SSM	0.1	0.1	59.36	–	r.o.o.g.; <i>t</i> _{resp} = 31.1 ms, [†] 28.1 ms ^{††}	[7]
	K⁺-8 (w = 2 %), oNPOE (w = 65 %), PVC (w = 33 %)	Li ⁺ , -3.4; Na ⁺ , -3.0; Cs ⁺ , -2.2; NH ₄ ⁺ , -2.0; Mg ²⁺ , -3.8; Ca ²⁺ , -4.0	SSM	0.1	0.1	53.8 51.2	10 ⁻⁴ –10 ⁻¹ 10 ⁻⁵ –10 ⁻¹	room temp.; [15] <i>c</i> _{dl} = 10 ^{-4.8} M; FIA	
	K⁺-8 (w = 2 %), BBPA (w = 65 %), PVC (w = 33 %)	Li ⁺ , -3.6; Na ⁺ , -3.2; Cs ⁺ , -2.4; NH ₄ ⁺ , -2.1; Mg ²⁺ , -4.4; Ca ²⁺ , -4.4	SSM	0.1	0.1	57.5 56.9	10 ⁻⁴ –10 ⁻¹ 10 ⁻⁵ –10 ⁻¹	room temp.; [15] <i>c</i> _{dl} = 10 ^{-5.7} M; FIA	
	K⁺-8 (w = 2 %), oNPOE (w ≈ 65 %), PVC (w = 33 %), KTpCIPB (x _i = 70 %)	Li ⁺ , -3.8; Na ⁺ , -3.2; Cs ⁺ , -2.5; NH ₄ ⁺ , -2.1; Mg ²⁺ , -5.0; Ca ²⁺ , -4.5	SSM	0.1	0.1	57.9 56.0	10 ⁻⁴ –10 ⁻¹ 10 ⁻⁵ –10 ⁻¹	room temp.; [15] <i>c</i> _{dl} = 10 ^{-5.3} M; FIA	
	K⁺-8 (w = 2 %), BBPA (w = 65 %), PVC (w = 33 %), KTpCIPB (x _i = 70 %)	Li ⁺ , -3.8; Na ⁺ , -3.3; Cs ⁺ , -2.3; NH ₄ ⁺ , -2.1; Mg ²⁺ , -4.3; Ca ²⁺ , -4.5	SSM	0.1	0.1	58.1 55.6	10 ⁻⁴ –10 ⁻¹ 10 ⁻⁵ –10 ⁻¹	room temp.; [15] <i>c</i> _{dl} = 10 ^{-5.8} M; FIA	
	K⁺-8 (w = 1 %), DOS (w = 66 %). PVC (w = 32.6 %), NaTPB (x _i = 110 %)	Li ⁺ , -3.8; Cs ⁺ , -2.4; NH ₄ ⁺ , -2.1; Ca ²⁺ , -4.2 Na ⁺ , -3.2	SSM FIM	0.1 –	0.1 –	58.1	10 ⁻⁴ –10 ⁻¹	20 ± 2 °C; [19] r.o.o.g.	
	K⁺-8 (w = 1 %), PVC (w = 32.6 %), dinonyl adipate (w = 66 %), NaTPB (x _i = 110 %)	NH ₄ ⁺ , -2.2 Na ⁺ , -3.2	SSM FIM	0.1 –	0.1 –	58.1 ± 0.1	10 ⁻⁴ –10 ⁻¹	20 ± 2 °C [19]	
	K⁺-8 (w = 1.4 %), fluorosilicone rubber (w = 98.2 %), KTpCIPB (x _i = 40 %)	Li ⁺ , -3.4; Na ⁺ , -3.1; NH ₄ ⁺ , -1.9; Mg ²⁺ , -4.2; Ca ²⁺ , -4.2	SSM	10 ⁻²	10 ⁻²	56.8	–	ISFET; 25 °C; <i>c</i> _{dl} = 1 × 10 ⁻⁶ M	[33]

† unconditioned membrane

†† membranes conditioned in 10⁻³ M KCl

Table 4: K⁺-Selective Electrodes (Continued)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
	K⁺-8 (<i>w</i> = 1.5 %), fluorosilicone rubber (<i>w</i> = 97.8 %), KTPClPB (<i>x_i</i> = 73 %)	Li ⁺ , -3.8; Na ⁺ , -3.5; NH ₄ ⁺ , -2.2; Mg ²⁺ , -4.6; Ca ²⁺ , -4.7	SSM	10 ⁻²	10 ⁻²	56.5	–	ISFET; 25 °C; <i>c_{dl}</i> = 1 × 10 ⁻⁶ M	[33]
K⁺-9	K⁺-9 (<i>w</i> = 3 %), silicone rubber (<i>w</i> = 88.2 %), cross-linking agent (<i>w</i> = 8.8 %)	Na ⁺ , ≤ -3.3	FIM	–	0.10	55	–	ISFET	[11]
	K⁺-9 (<i>w</i> = 3 %), silicone rubber (<i>w</i> = 97 %)	Na ⁺ , ≤ -3.3	FIM	–	0.1	55	–	ISFET	[14]
K⁺-10	K⁺-10 (<i>w</i> = 3 %), silicone rubber (<i>w</i> = 88.2 %), cross-linking agent (<i>w</i> = 8.8 %)	Na ⁺ , ≤ -3.1	FIM	–	0.10	56	–	ISFET	[12]
	K⁺-10 (<i>w</i> = 3 %), silicone rubber (<i>w</i> = 97 %)	Na ⁺ , ≤ -3.1	FIM	–	0.1	56	–	ISFET; poly(hydroxyethyl methacrylate) was covalently attached to SiO ₂ gate.	[14]
K⁺-11	K⁺-11 (<i>w</i> = 3.2–3.8 %), oNPOE (<i>w</i> ≈ 64 %), PVC (<i>w</i> ≈ 32 %)	Na ⁺ , -3.4; Rb ⁺ , -0.52; Cs ⁺ , -0.70; NH ₄ ⁺ , -1.5	FIM	–	0.1, 0.01	55	10 ⁻⁴ –10 ⁻¹	25.0 ± 0.1 °C	[4]
K⁺-12	K⁺-12 (<i>w</i> = 0.4–0.5 %), DOP (<i>w</i> = 77–80 %), PVC (<i>w</i> = 20–23 %)	Li ⁺ , -5.00; Cs ⁺ , -1.30; NH ₄ ⁺ , -3.00; Mg ²⁺ , -3.40; Ca ²⁺ , -5.00; Sr ²⁺ , -5.00; Ba ²⁺ , -5.00; Zn ²⁺ , -4.70	SSM	–	–	46 ± 1	–		[6]
		Na ⁺ , -2.30	FIM	–	–		–		
K⁺-13	K⁺-13 (<i>w</i> = 0.4–0.5 %), DOP (<i>w</i> = 77–80 %), PVC (<i>w</i> = 20–23 %)	Li ⁺ , -4.00; Cs ⁺ , -4.00; NH ₄ ⁺ , -4.00; Mg ²⁺ , -2.30; Ca ²⁺ , -5.00; Sr ²⁺ , -5.00; Ba ²⁺ , -5.00; Zn ²⁺ , -5.00	SSM	–	–	38 ± 1	–		[6]
		Na ⁺ , -3.60	FIM	–	–		–		
K⁺-14	K⁺-14 (<i>w</i> = 0.4–0.5 %), DOP (<i>w</i> = 77–80 %), PVC (<i>w</i> = 20–23 %)	Li ⁺ , -5.00; Cs ⁺ , -5.00; NH ₄ ⁺ , -2.20; Mg ²⁺ , -5.00; Ca ²⁺ , -5.00; Sr ²⁺ , -5.00; Ba ²⁺ , -5.00; Zn ²⁺ , -5.00	SSM	–	–	55 ± 1	10 ⁻¹ –10 ⁻⁵	–	[6]
		Na ⁺ , -3.70	FIM	–	–		–		
K⁺-15	K⁺-15 (<i>w</i> = 0.4–0.5 %), DOP (<i>w</i> = 77–80 %), PVC (<i>w</i> = 20–23 %)	Li ⁺ , -5.00; Cs ⁺ , -4.40; NH ₄ ⁺ , -1.70; Mg ²⁺ , -5.00; Ca ²⁺ , -5.00; Sr ²⁺ , -4.30;	SSM	–	–	38 ± 1	10 ^{-1.5} –10 ^{-5.3}		[6]

continues on next page

Table 4: K⁺-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
		Ba ²⁺ , -5.00; Zn ²⁺ , -5.00 Na ⁺ , -2.70;	FIM	–	–	–	–		
K⁺-16	K⁺-16 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Li ⁺ , -0.20; Na ⁺ , -1.40; Rb ⁺ , -0.20; Cs ⁺ , -1.20; NH ₄ ⁺ , -0.70; Mg ²⁺ , -1.40; Ca ²⁺ , -1.80; Sr ²⁺ , -1.00; Ba ²⁺ , -1.60	SSM	0.1	0.1	–	–	25.0 ± 0.1 °C	[8]
K⁺-17	K⁺-17 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Li ⁺ , -3.1; Na ⁺ , -2.7; Rb ⁺ , -0.4; Cs ⁺ , -2.7; NH ₄ ⁺ , -1.6; Mg ²⁺ , -4.1; Ca ²⁺ , -3.4; Sr ²⁺ , -3.0; Ba ²⁺ , -3.2	SSM	0.1	0.1	–	–	25.0 ± 0.1 °C	[8]
K⁺-18	K⁺-18 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Li ⁺ , -3.2; Na ⁺ , -2.9; Rb ⁺ , -0.4; Cs ⁺ , -2.5; NH ₄ ⁺ , -1.8; Mg ²⁺ , -4.2; Ca ²⁺ , -3.7; Sr ²⁺ , -3.2; Ba ²⁺ , -3.4	SSM	0.1	0.1	–	–	25.0 ± 0.1 °C	[8]
K⁺-19	K⁺-19 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Li ⁺ , -3.0; Na ⁺ , -2.5; Rb ⁺ , -0.8; Cs ⁺ , -2.3; NH ₄ ⁺ , -1.6; Mg ²⁺ , -3.5; Ca ²⁺ , -3.4; Sr ²⁺ , -3.0; Ba ²⁺ , -3.4	SSM	0.1	0.1	–	–	25.0 ± 0.1 °C	[8]
K⁺-20	K⁺-20 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Li ⁺ , -3.3; Na ⁺ , -2.95; Rb ⁺ , -0.7; Cs ⁺ , -2.4; NH ₄ ⁺ , -1.7; Mg ²⁺ , -4.1; Ca ²⁺ , -3.8; Sr ²⁺ , -3.1; Ba ²⁺ , -3.9	SSM	0.1	0.1	–	–	25.0 ± 0.1 °C	[8]
K⁺-21	K⁺-21 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Li ⁺ , -3.3; Na ⁺ , -2.9; Rb ⁺ , -0.5; Cs ⁺ , -2.9; NH ₄ ⁺ , -1.7; Mg ²⁺ , -4.3; Ca ²⁺ , -3.6; Sr ²⁺ , -3.2; Ba ²⁺ , -3.5	SSM	0.1	0.1	–	–	25.0 ± 0.1 °C	[8]
K⁺-22	K⁺-22 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Li ⁺ , -3.2; Na ⁺ , -2.9; Rb ⁺ , -0.7; Cs ⁺ , -2.5; NH ₄ ⁺ , -1.8; Mg ²⁺ , -4.1;	SSM	0.1	0.1	–	–	25.0 ± 0.1 °C	[8]

Table 4: K⁺-Selective Electrodes (Continued)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
K⁺-23	K⁺-23 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Ca ²⁺ , -3.7; Sr ²⁺ , -3.1; Ba ²⁺ , -3.8 Li ⁺ , +0.3; Na ⁺ , -1.1; Rb ⁺ , -0.2; Cs ⁺ , -1.0; NH ₄ ⁺ , -0.6; Mg ²⁺ , -0.9; Ca ²⁺ , -1.8; Sr ²⁺ , -0.6; Ba ²⁺ , -1.5	SSM	0.1	0.1	–	–	25.0 ± 0.1 °C [8]	
K⁺-24	K⁺-24 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Li ⁺ , -2.9; Na ⁺ , -2.7; Rb ⁺ , -1.0; Cs ⁺ , -2.4; NH ₄ ⁺ , -1.7; Mg ²⁺ , -3.9; Ca ²⁺ , -3.6; Sr ²⁺ , -3.1; Ba ²⁺ , -3.3	SSM	0.1	0.1	–	–	25.0 ± 0.1 °C [8]	
K⁺-25	K⁺-25 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Li ⁺ , -2.4; Na ⁺ , -2.5; Rb ⁺ , -1.1; Cs ⁺ , -2.2; NH ₄ ⁺ , -1.4; Mg ²⁺ , -3.4; Ca ²⁺ , -3.2; Sr ²⁺ , -2.7; Ba ²⁺ , -2.9	SSM	0.1	0.1	–	–	25.0 ± 0.1 °C [8]	
K⁺-26	K⁺-26 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Li ⁺ , -0.5; Na ⁺ , -1.6; Rb ⁺ , -0.2; Cs ⁺ , -1.4; NH ₄ ⁺ , -1.0; Mg ²⁺ , -1.2; Ca ²⁺ , -2.5; Sr ²⁺ , -1.9; Ba ²⁺ , -1.8	SSM	0.1	0.1	–	–	25.0 ± 0.1 °C [8]	
K⁺-27	K⁺-27 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Li ⁺ , -2.9; Na ⁺ , -2.6; Rb ⁺ , -0.5; Cs ⁺ , -2.2; NH ₄ ⁺ , -1.6; Mg ²⁺ , -4.0; Ca ²⁺ , -3.5; Sr ²⁺ , -3.3; Ba ²⁺ , -3.3	SSM	0.1	0.1	–	–	25.0 ± 0.1 °C [8]	
K⁺-28	K⁺-28 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Li ⁺ , -3.4; Na ⁺ , -2.9; Rb ⁺ , -0.8; Cs ⁺ , -2.7; NH ₄ ⁺ , -1.7; Mg ²⁺ , -4.3; Ca ²⁺ , -3.4; Sr ²⁺ , -3.4; Ba ²⁺ , -3.3	SSM	0.1	0.1	–	–	25.0 ± 0.1 °C [8]	
K⁺-29	K⁺-29 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Li ⁺ , -1.3; Na ⁺ , -1.9; Rb ⁺ , -0.9; Cs ⁺ , -2.0; NH ₄ ⁺ , -1.3; Mg ²⁺ , -2.6;	SSM	0.1	0.1	–	–	25.0 ± 0.1 °C [8]	

continues on next page

Table 4: K⁺-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
K⁺-30	K⁺-30 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Ca ²⁺ , -2.7; Sr ²⁺ , -2.1; Ba ²⁺ , -2.4	SSM	0.1	0.1	-	-	25.0 ± 0.1 °C [8]	
		Li ⁺ , -3.4; Na ⁺ , -3.0; Rb ⁺ , -0.9; Cs ⁺ , -2.7; NH ₄ ⁺ , -1.9; Mg ²⁺ , -4.3; Ca ²⁺ , -3.8; Sr ²⁺ , -3.2; Ba ²⁺ , -3.4							
		Li ⁺ , -3.4; Na ⁺ , -3.0; Rb ⁺ , -0.9; Cs ⁺ , -2.7; NH ₄ ⁺ , -1.9; Mg ²⁺ , -4.3; Ca ²⁺ , -3.8; Sr ²⁺ , -3.2; Ba ²⁺ , -3.4							
K⁺-30	K⁺-30 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (POLANVIL S-70) (<i>w</i> = 34 %)	Li ⁺ , -3.4; Na ⁺ , -3.0; Rb ⁺ , -0.9; Cs ⁺ , -2.7; NH ₄ ⁺ , -1.9; Mg ²⁺ , -4.3; Ca ²⁺ , -3.8; Sr ²⁺ , -3.2; Ba ²⁺ , -3.4	SSM	0.1	0.1	56	10 ^{-4.4} -10 ⁻¹	25.0 ± 0.1 °C [8]	
		Li ⁺ , -3.5; Na ⁺ , -3.3; Rb ⁺ , -0.9; Cs ⁺ , -2.8; NH ₄ ⁺ , -2.0; Mg ²⁺ , -4.3; Ca ²⁺ , -3.7; Sr ²⁺ , -3.1; Ba ²⁺ , -3.3							
		Na ⁺ , -3.5							
K⁺-31	K⁺-31 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Li ⁺ , -2.2; Na ⁺ , -2.5; Rb ⁺ , -0.6; Cs ⁺ , -1.7; NH ₄ ⁺ , -1.6; Mg ²⁺ , -3.0; Ca ²⁺ , -2.9; Sr ²⁺ , -2.4; Ba ²⁺ , -2.6	FIM	-	-	-	-	25.0 ± 0.1 °C [8]	
		Li ⁺ , -2.2; Na ⁺ , -2.5; Rb ⁺ , -0.6; Cs ⁺ , -1.7; NH ₄ ⁺ , -1.6; Mg ²⁺ , -3.0; Ca ²⁺ , -2.9; Sr ²⁺ , -2.4; Ba ²⁺ , -2.6	SSM	0.1	0.1	-	-		
K⁺-32	K⁺-32 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Li ⁺ , -3.0; Na ⁺ , -2.6; Rb ⁺ , -0.3; Cs ⁺ , -2.6; NH ₄ ⁺ , -1.5; Mg ²⁺ , -4.3; Ca ²⁺ , -3.7; Sr ²⁺ , -3.2; Ba ²⁺ , -3.3	SSM	0.1	0.1	-	-	25.0 ± 0.1 °C [8]	
K⁺-33	K⁺-33 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 64 %), PVC (<i>w</i> = 34 %)	Li ⁺ , -3.2; Na ⁺ , -2.8; Rb ⁺ , -0.9; Cs ⁺ , -2.5; NH ₄ ⁺ , -1.7; Mg ²⁺ , -4.3; Ca ²⁺ , -3.7; Sr ²⁺ , -3.2; Ba ²⁺ , -3.2	SSM	0.1	0.1	-	-	25.0 ± 0.1 °C [8]	
K⁺-34	K⁺-34 (<i>w</i> = 0.3-0.5 %), DBP (<i>w</i> = 77-80 %),	Li ⁺ , -5.0; Na ⁺ , -2.6; Cs ⁺ , -1.0; NH ₄ ⁺ -2.3;	SSM	-	-	44 ± 1	10 ⁻⁴ -1	<i>t</i> _{resp} = 30-60 s;	[5]

Table 4: K⁺-Selective Electrodes (Continued)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
	PVC ($w = 20\text{--}23\%$)	Mg ²⁺ , -3.7; Ca ²⁺ , -3.0; Sr ²⁺ , -2.6; Ba ²⁺ , -5.0; Cu ²⁺ , -1.0; Zn ²⁺ , -2.7						5.5 < pH < 10.5; $c_{dl} = 5.6 \times 10^{-5}$ M	
K⁺-35	K⁺-35 ($w = 0.3\text{--}0.5\%$), DOP ($w = 77\text{--}80\%$), PVC ($w = 20\text{--}23\%$)	Li ⁺ , -5.0; Na ⁺ , -3.3; Cs ⁺ , -1.6; NH ₄ ⁺ , -1.5; Mg ²⁺ , -2.6; Ca ²⁺ , -3.0; Sr ²⁺ , -1.6; Ba ²⁺ , -5.0; Cu ²⁺ , -0.70; Zn ²⁺ , -5.0	SSM	–	–	43 ± 1	10 ⁻⁴ –1	$t_{resp} = 30\text{--}60$ s; 5.5 < pH < 10.5; $c_{dl} = 7.9 \times 10^{-5}$ M	[5]
K⁺-36	K⁺-36 ($w = 0.3\text{--}0.5\%$), DBP ($w = 77\text{--}80\%$), PVC ($w = 20\text{--}23\%$)	Li ⁺ , -5.0; Na ⁺ , -3.1; Cs ⁺ , -1.6; NH ₄ ⁺ , -1.7; Mg ²⁺ , -3.4; Ca ²⁺ , -4.0; Sr ²⁺ , -2.4; Cu ²⁺ , -1.5; Zn ²⁺ , -2.4	SSM	–	–	47 ± 1	10 ⁻⁴ –1	$t_{resp} = 30\text{--}60$ s; 5 < pH < 10.5; $c_{dl} = 5.0 \times 10^{-5}$ M	[5]
K⁺-37	K⁺-37 ($w = 1.64\%$), diethyl phthalate ($w = 65.04\%$), PVC ($w = 32.52\%$), NaTPB ($x_i = 50\%$)	Li ⁺ , -1.13; Na ⁺ , -1.63; Mg ²⁺ , -2.26; Ca ²⁺ , -2.72	FIM	–	–	53.5	10 ⁻⁴ –10 ⁻¹	25 ± 1 °C; $c_{dl} = 10^{-4.45}$ M	[9]
K⁺-38	K⁺-38 ($w = 1.64\%$), diethyl phthalate ($w = 65.04\%$), PVC ($w = 32.52\%$), NaTPB ($x_i = 50\%$)	Li ⁺ , -1.77; Na ⁺ , -1.96; Cs ⁺ , -2.10; NH ₄ ⁺ , -1.47; Mg ²⁺ , -2.96; Ca ²⁺ , -2.85; Sr ²⁺ , -2.64; Ba ²⁺ , -2.69; Mn ²⁺ , -2.80; Co ²⁺ , -2.88; Ni ²⁺ , -2.92; Cu ²⁺ , -2.82; Cd ²⁺ , -1.45; Al ³⁺ , -2.39	FIM	–	–	58.0	10 ⁻⁴ –10 ⁻¹	25 ± 1 °C; $c_{dl} = 10^{-4.60}$ M; $t_{90} = 2$ min; $\tau = 45$ d; 5.5 < pH < 7.5	[9]
	K⁺-38 ($w = 1.64\%$), PVC ($w = 32.52\%$), DBP ($w = 65.04\%$), NaTPB ($x_i = 50\%$)	Li ⁺ , -1.27; Na ⁺ , -1.79; Mg ²⁺ , -2.28; Ca ²⁺ , -2.72	FIM	–	–	–	–		[9]
	K⁺-38 ($w = 1.64\%$), PVC ($w = 32.52\%$), NaTPB ($x_i = 50\%$), acetophenone ($w = 65.04\%$)	Li ⁺ , -0.29; Na ⁺ , -0.12; Mg ²⁺ , -0.63; Ca ²⁺ , -0.43;	FIM	–	–	–	–		[9]
	K⁺-38 ($w = 1.64\%$), oNPOE ($w = 65.04\%$), PVC ($w = 32.52\%$), NaTPB ($x_i = 50\%$)	Li ⁺ , -0.52; Na ⁺ , -0.46; Mg ²⁺ , -0.85; Ca ²⁺ , -0.64	FIM	–	–	–	–		[9]

continues on next page

Table 4: K⁺-Selective Electrodes (Continued)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
	K⁺-38 (<i>w</i> = 1.64 %), PVC (<i>w</i> = 32.52 %), nitrobenzene (<i>w</i> = 65.04 %), NaTPB (<i>x_i</i> = 50 %)	Li ⁺ , -0.53; Na ⁺ , -0.15; Mg ²⁺ , -0.52; Ca ²⁺ , -0.43	FIM	–	–	–	–		[9]
K⁺-39	K⁺-39 (<i>w</i> = 1.64 %), diethyl phthalate (<i>w</i> = 65.04 %), PVC (<i>w</i> = 32.52 %), NaTPB (<i>x_i</i> = 50 %)	Li ⁺ , -1.00; Na ⁺ , -1.67; Mg ²⁺ , -2.13; Ca ²⁺ , -2.27	FIM	–	–	53.0	10 ⁻⁴ –10 ⁻¹	25 ± 1 °C; <i>c_{dl}</i> = 10 ^{-4.3} M	[9]
K⁺-40	K⁺-40 (<i>w</i> = 1.64 %), diethyl phthalate (<i>w</i> = 65.04 %), PVC (<i>w</i> = 32.52 %), NaTPB (<i>x_i</i> = 50 %)	Li ⁺ , -1.11; Na ⁺ , -1.60; Mg ²⁺ , -2.00; Ca ²⁺ , -2.05	FIM	–	–	51.5	10 ⁻⁴ –10 ⁻¹	25 ± 1 °C; <i>c_{dl}</i> = 10 ^{-4.26} M	[9]
K⁺-41	K⁺-41 (<i>w</i> = 2.7 %), DBP (<i>w</i> = 64 %), PVC (<i>w</i> = 32 %), KTPCIPB (<i>x_i</i> = 60 %)	Li ⁺ , -1.95; Na ⁺ , -2.35; Rb ⁺ , -2.20; Cs ⁺ , -2.25; NH ₄ ⁺ , -2.05; Mg ²⁺ , -2.90; Ca ²⁺ , -3.05; Sr ²⁺ , -3.20; Ba ²⁺ , -3.30; Mn ²⁺ , -2.55; Co ²⁺ , -2.70; Ni ²⁺ , -3.00; Cu ²⁺ , -2.75; Cd ²⁺ , -2.45; Al ³⁺ , -3.45	SSM	–	–	–	10 ⁻⁵ –10 ⁻¹	25 ± 1 °C; r.o.o.g.; τ > 60 d; <i>t_{resp}</i> < 20 s	[10]
K⁺-42	K⁺-42 (<i>w</i> = 2.7 %), DBP (<i>w</i> = 64 %), PVC (<i>w</i> = 32 %), KTPCIPB (<i>x_i</i> = 81 %)	Li ⁺ , -1.81; Na ⁺ , -2.25; Rb ⁺ , -2.10; Cs ⁺ , -2.20; NH ₄ ⁺ , -1.91; Mg ²⁺ , -2.80; Ca ²⁺ , -3.00; Sr ²⁺ , -3.11 Ba ²⁺ , -3.20; Mn ²⁺ , -2.45; Co ²⁺ , -2.60; Ni ²⁺ , -2.90; Cu ²⁺ , -2.70; Cd ²⁺ , -2.32; Al ³⁺ , -3.57	SSM	–	–	–	10 ⁻⁵ –10 ⁻¹	25 ± 1 °C; r.o.o.g.; τ > 60 d; <i>t_{resp}</i> < 20 s	[10]
K⁺-43	K⁺-43 (<i>w</i> = 2.7 %), DBP (<i>w</i> = 64 %), PVC (<i>w</i> = 32 %), KTPCIPB (<i>x_i</i> = 68 %)	Li ⁺ , -2.05; Na ⁺ , -2.40; Rb ⁺ , -2.32; Cs ⁺ , -2.33; NH ₄ ⁺ , -2.17; Mg ²⁺ , -3.00; Ca ²⁺ , -3.15; Sr ²⁺ , -3.40; Ba ²⁺ , -3.50; Mn ²⁺ , -2.70; Co ²⁺ , -2.84; Ni ²⁺ , -3.10; Cu ²⁺ , -2.85; Cd ²⁺ , -2.60; Al ³⁺ , -3.59	SSM	–	–	–	10 ⁻⁵ –10 ⁻¹	25 ± 1 °C; r.o.o.g.; τ > 60 d; 3 < pH < 11; <i>t_{resp}</i> < 20 s; <i>c_{dl}</i> = 4 × 10 ⁻⁶ M	[10]

Table 4: K⁺-Selective Electrodes (Continued)

ionophore	membrane composition	lgK _{K⁺,Bⁿ⁺}	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
K⁺-44	K⁺-44 (<i>w</i> = 2.7 %), DBP (<i>w</i> = 64 %), PVC (<i>w</i> = 32 %), KTPCIPB (<i>x</i> ₁ = 73 %)	Li ⁺ , -2.10; Na ⁺ , -2.50; Rb ⁺ , -2.32; Cs ⁺ , -2.40; NH ₄ ⁺ , -2.19; Mg ²⁺ , -3.10; Ca ²⁺ , -3.19; Sr ²⁺ , -3.50; Ba ²⁺ , -3.58; Mn ²⁺ , -2.80; Co ²⁺ , -3.00; Ni ²⁺ , -3.11; Cu ²⁺ , -2.90; Cd ²⁺ , -2.70; Al ³⁺ , -3.59	SSM	–	–	60	10 ⁻⁵ –10 ⁻¹	25 ± 1 °C; r.o.o.g.; τ > 60 d; <i>c</i> _{dl} = 4 × 10 ⁻⁶ M; <i>t</i> _{resp} < 20 s	[10]
K⁺-45	K⁺-45 (<i>w</i> = 10 %), DOP (<i>w</i> = 65 %), PVC (<i>w</i> = 25 %)	Li ⁺ , -1.5; Na ⁺ , -0.4; Cs ⁺ , -0.2; Ca ²⁺ , -3.8; Sr ²⁺ , -2.2; Ba ²⁺ , -2.9; Pb ²⁺ , -1.7	FIM	–	10 ⁻³	56.6	>10 ^{-4.7}	Cu CWE	[16]
K⁺-46	K⁺-46 (<i>w</i> = 10 %), DOP (<i>w</i> = 65 %), PVC (<i>w</i> = 25 %)	Li ⁺ , -0.5; Na ⁺ , -0.4; Cs ⁺ , -0.2; Ca ²⁺ , -1.8; Sr ²⁺ , -1.0; Ba ²⁺ , -1.3; Pb ²⁺ , -1.3	FIM	–	10 ⁻³	56.1	>10 ^{-4.7}	Cu CWE	[16]
K⁺-47	K⁺-47 (<i>w</i> = 3 %), DBS (<i>w</i> = 70 %), PVC (<i>w</i> = 27 %)	Li ⁺ , -2.4; Na ⁺ , -1.8; Rb ⁺ , -0.3; Cs ⁺ , -0.8; Mg ²⁺ , -3.9; Ca ²⁺ , -3.8; Sr ²⁺ , -3.8; Ba ²⁺ , -3.6	SSM	0.1	0.1	59	10 ⁻⁵ –10 ⁻¹	25 ± 0.5 °C; r.o.o.g.; <i>t</i> _{resp} < 30 s	[17]
K⁺-48	K⁺-48 (<i>w</i> = 3 %), DBS (<i>w</i> = 70 %), PVC (<i>w</i> = 27 %)	Li ⁺ , -1.7; Na ⁺ , -1.5; Rb ⁺ , -0.1; Cs ⁺ , -1.0; Mg ²⁺ , -4.6; Ca ²⁺ , -4.4; Sr ²⁺ , -4.4; Ba ²⁺ , -4.1	SSM	0.1	0.1	58	10 ⁻⁵ –10 ⁻¹	25 ± 0.5 °C; r.o.o.g.; <i>t</i> _{resp} < 30 s	[17]
K⁺-49	K⁺-49 (<i>w</i> = 3 %), DBS (<i>w</i> = 70 %), PVC (<i>w</i> = 27 %)	Li ⁺ , -1.7; Na ⁺ , -0.5; Rb ⁺ , -0.4; Cs ⁺ , -0.8; Mg ²⁺ , -3.2; Ca ²⁺ , -3.0; Sr ²⁺ , -2.4; Ba ²⁺ , -1.6	SSM	0.1	0.1	58	10 ⁻⁵ –10 ⁻¹	25 ± 0.5 °C; r.o.o.g.; <i>t</i> _{resp} < 30 s	[17]
K⁺-50	K⁺-50 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 63.5 %), PVC (<i>w</i> = 34 %), KTPCIPB (<i>x</i> ₁ = 22 %)	Li ⁺ , -2.0; Na ⁺ , -0.9; Cs ⁺ , -1.0; NH ₄ ⁺ , -0.5; Mg ²⁺ , -2.8; Ca ²⁺ , -1.5; Sr ²⁺ , -1.8; Ba ²⁺ , -0.2; Mn ²⁺ , -2.0; Co ²⁺ , -2.2; Ni ²⁺ , -1.5; Cu ²⁺ , -0.2; Zn ²⁺ , -2.6; Cd ²⁺ , -1.8;	MSM	10 ⁻³	0.1	51–56	10 ⁻⁴ –10 ⁻¹	r.o.o.g.	[18]

continues on next page

Table 4: K⁺-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
		Pb ²⁺ , -0.1; Ag ⁺ , +2.8; Hg ²⁺ , +0.1							
K⁺-51	K⁺-51 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 63.5 %), PVC (<i>w</i> = 34 %), KTpCIPB (<i>x</i> _i = 23 %)	Li ⁺ , -1.1; Na ⁺ , -0.4; Cs ⁺ , -0.4; NH ₄ ⁺ , -0.8; Mg ²⁺ , -2.5; Ca ²⁺ , -0.2; Sr ²⁺ , -0.0; Ba ²⁺ , +0.2; Mn ²⁺ , -1.3; Co ²⁺ , -1.6; Ni ²⁺ , -1.3; Cu ²⁺ , +0.8; Zn ²⁺ , -2.0; Cd ²⁺ , +1.0; Pb ²⁺ , +1.1; Ag ⁺ , +4.3; Hg ²⁺ , +4.5	MSM	10 ⁻³	0.1	51–56	10 ⁻⁴ –10 ⁻¹	r.o.o.g.	[18]
K⁺-52	K⁺-52 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 63.5 %), PVC (<i>w</i> = 34 %), KTpCIPB (<i>x</i> _i = 24 %)	Li ⁺ , -1.8; Na ⁺ , -1.1; Cs ⁺ , +0.3; NH ₄ ⁺ , -0.4; Mg ²⁺ , -2.9; Ca ²⁺ , -1.6; Sr ²⁺ , -2.2; Ba ²⁺ , -2.2; Mn ²⁺ , -2.7; Co ²⁺ , -2.6; Ni ²⁺ , -1.3; Cu ²⁺ , -0.9; Zn ²⁺ , -2.9; Cd ²⁺ , -0.1; Pb ²⁺ , -0.7; Ag ⁺ , +1.1; Hg ²⁺ , +2.7	MSM	10 ⁻³	0.1	51–56	10 ⁻⁴ –10 ⁻¹	r.o.o.g.	[18]
K⁺-53	K⁺-53 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 63.5 %), PVC (<i>w</i> = 34 %), KTpCIPB (<i>x</i> _i = 30 %)	Li ⁺ , -1.7; Na ⁺ , -2.1; Cs ⁺ , -0.2; NH ₄ ⁺ , -0.4; Mg ²⁺ , -1.6; Ca ²⁺ , -2.6; Sr ²⁺ , -2.2; Ba ²⁺ , -1.0; Ni ²⁺ , -1.7; Cu ²⁺ , -3.3	MSM	10 ⁻³	0.1	51–56	10 ⁻⁴ –10 ⁻¹	r.o.o.g.	[18]
K⁺-54	K⁺-54 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 63.5 %), PVC (<i>w</i> = 34 %), KTpCIPB (<i>x</i> _i = 35 %)	Li ⁺ , -2.0; Na ⁺ , -1.4; Cs ⁺ , +0.3; NH ₄ ⁺ , -0.5; Mg ²⁺ , -1.5; Ca ²⁺ , -2.4; Sr ²⁺ , -2.5; Ba ²⁺ , -0.3; Ni ²⁺ , -1.6; Cu ²⁺ , -3.7	MSM	10 ⁻³	0.1	51–56	10 ⁻⁴ –10 ⁻¹	r.o.o.g.	[18]
K⁺-55	K⁺-55 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 63.5 %), PVC (<i>w</i> = 34 %), KTpCIPB (<i>x</i> _i = 44 %)	Li ⁺ , -2.2; Na ⁺ , -1.4; Cs ⁺ , -0.3; NH ₄ ⁺ , -0.5; Mg ²⁺ , -2.9; Ca ²⁺ , -1.7; Sr ²⁺ , -1.0; Ba ²⁺ , +0.5; Mn ²⁺ , -1.7; Co ²⁺ , -2.7; Ni ²⁺ , -2.0; Cu ²⁺ , -0.8;	MSM	10 ⁻³	0.1	51–56	10 ⁻⁴ –10 ⁻¹	r.o.o.g.	[18]

Table 4: K⁺-Selective Electrodes (Continued)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
		Zn ²⁺ , -1.8; Cd ²⁺ , +0.6; Pb ²⁺ , +1.1; Ag ⁺ , +0.3; Hg ²⁺ , +4.8							
K⁺-56	K⁺-56 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 63.5 %), PVC (<i>w</i> = 34 %), KTpCIPB (<i>x_i</i> = 50 %)	Li ⁺ , -1.9; Na ⁺ , -1.0; Cs ⁺ , +0.6; NH ₄ ⁺ , -0.4; Mg ²⁺ , -2.8; Ca ²⁺ , -0.8; Sr ²⁺ , -1.3; Ba ²⁺ , +0.9; Mn ²⁺ , -0.6; Co ²⁺ , -2.1; Ni ²⁺ , -1.7; Cu ²⁺ , 0.0; Zn ²⁺ , -0.8; Cd ²⁺ , +0.6; Pb ²⁺ , +1.1; Ag ⁺ , +2.1; Hg ²⁺ , +4.1	MSM	10 ⁻³	0.1	51–56	10 ⁻⁴ –10 ⁻¹	r.o.o.g.	[18]
K⁺-57	K⁺-57 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 63.5 %), PVC (<i>w</i> = 34 %), KTpCIPB (<i>x_i</i> = 44 %)	Li ⁺ , -1.9; Na ⁺ , -1.3; Cs ⁺ , +0.9; NH ₄ ⁺ , -0.1; Mg ²⁺ , -2.6; Ca ²⁺ , -1.7; Sr ²⁺ , -1.5; Ba ²⁺ , -1.3; Mn ²⁺ , -2.6; Co ²⁺ , -2.2; Ni ²⁺ , -1.9; Cu ²⁺ , -0.8; Zn ²⁺ , -2.8; Cd ²⁺ , -0.8; Pb ²⁺ , -0.4; Ag ⁺ , +4.6; Hg ²⁺ , +4.6	MSM	10 ⁻³	0.1	51–56	10 ⁻⁴ –10 ⁻¹	r.o.o.g.	[18]
K⁺-58	K⁺-58 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 63.5 %), PVC (<i>w</i> = 34 %), KTpCIPB (<i>x_i</i> = 17 %)	Li ⁺ , -3.8; Na ⁺ , -0.5; Cs ⁺ , +1.3; NH ₄ ⁺ , -0.4; Mg ²⁺ , -2.9; Ca ²⁺ , -3.5; Sr ²⁺ , -2.8; Ba ²⁺ , -2.3; Ni ²⁺ , -1.1; Cu ²⁺ , -1.2	MSM	10 ⁻³	0.1	51–56	10 ⁻⁴ –10 ⁻¹	r.o.o.g.	[18]
K⁺-59	K⁺-59 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 63.5 %), PVC (<i>w</i> = 34 %), KTpCIPB (<i>x_i</i> = 16 %)	Li ⁺ , -2.2; Na ⁺ , -0.4; Cs ⁺ , +0.4; NH ₄ ⁺ , -0.3; Mg ²⁺ , -3.5; Ca ²⁺ , -1.1; Sr ²⁺ , -0.7; Ba ²⁺ , +0.2; Ni ²⁺ , -3.1; Cu ²⁺ , -1.2	MSM	10 ⁻³	0.1	51–56	10 ⁻⁴ –10 ⁻¹	r.o.o.g.	[18]
K⁺-60	K⁺-60 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 63.5 %), PVC (<i>w</i> = 34 %), KTpCIPB (<i>x_i</i> = 19 %)	Li ⁺ , -1.7; Na ⁺ , -0.9; Cs ⁺ , +1.4; NH ₄ ⁺ , +0.2; Mg ²⁺ , -1.6; Ca ²⁺ , -1.4; Sr ²⁺ , -0.6; Ba ²⁺ , +0.7; Ni ²⁺ , -1.5; Cu ²⁺ , -1.6	MSM	10 ⁻³	0.1	51–56	10 ⁻⁴ –10 ⁻¹	r.o.o.g.	[18]

continues on next page

Table 4: K⁺-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
K⁺-61	K⁺-61 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 63.5 %), PVC (<i>w</i> = 34 %), KTPCIPB (<i>x</i> _i = 24 %)	Li ⁺ , -1.6; Na ⁺ , -0.9; Cs ⁺ , +0.3; NH ₄ ⁺ , -0.2; Mg ²⁺ , -0.3; Ca ²⁺ , -1.8; Sr ²⁺ , -1.4; Ba ²⁺ , -0.4; Ni ²⁺ , -1.9; Cu ²⁺ , -1.9	MSM	10 ⁻³	0.1	51–56	10 ⁻⁴ –10 ⁻¹	r.o.o.g.	[18]
K⁺-62	K⁺-62 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 63.5 %), PVC (<i>w</i> = 34 %), KTPCIPB (<i>x</i> _i = 21 %)	Li ⁺ , -2.2; Na ⁺ , -0.8; Cs ⁺ , +0.2; NH ₄ ⁺ , -0.1; Mg ²⁺ , -0.9; Ca ²⁺ , -1.1; Sr ²⁺ , -1.0; Ba ²⁺ , -0.4; Ni ²⁺ , -2.4; Cu ²⁺ , -1.2	MSM	10 ⁻³	0.1	51–56	10 ⁻⁴ –10 ⁻¹	r.o.o.g.	[18]
K⁺-63	K⁺-63 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 65 %), PVC (<i>w</i> = 33 %)	Li ⁺ , -4.0; NH ₄ ⁺ , -1.8; Mg ²⁺ , -4.4; Ca ²⁺ , -3.6 Na ⁺ , -3.0	SSM FIM	0.1 –	0.1 0.14	56.1	10 ⁻⁴ –10 ⁻¹	20 ± 2 °C; r.o.o.g.	[19]
K⁺-64	K⁺-64 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 65 %), PVC (<i>w</i> = 33 %)	Li ⁺ , -1.8; NH ₄ ⁺ , -1.4; Mg ²⁺ , -3.5; Ca ²⁺ , -3.2 Na ⁺ , -1.8	SSM FIM	0.1 –	0.1 0.14	41.8	10 ⁻⁴ –10 ⁻¹	20 ± 2 °C; r.o.o.g.	[19]
K⁺-65	K⁺-65 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 65 %), PVC (<i>w</i> = 33 %)	Li ⁺ , -1.8; NH ₄ ⁺ , -1.7; Mg ²⁺ , -3.9; Ca ²⁺ , -4.0 Na ⁺ , -2.5	SSM FIM	0.1 –	0.1 0.14	54.8	10 ⁻⁴ –10 ⁻¹	20 ± 2 °C; r.o.o.g.	[19]
K⁺-66	K⁺-66 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 65 %), PVC (<i>w</i> = 33 %)	Cs ⁺ , -2.3; NH ₄ ⁺ , -2.1; Mg ²⁺ , -2.8; Ca ²⁺ , -4.3 Na ⁺ , -3.1	SSM FIM	0.1 –	0.1 0.14	55.4	10 ⁻⁴ –10 ⁻¹	20 ± 2 °C; r.o.o.g.	[19]
K⁺-67	K⁺-67 (<i>w</i> = 1 %), DOS (<i>w</i> = 66 %), PVC (<i>w</i> = 32.6 %), NaTPB (<i>w</i> = 0.4 %)	Li ⁺ , -3.5; Cs ⁺ , -2.1; NH ₄ ⁺ , -1.9; Ca ²⁺ , -4.5 Na ⁺ , -2.8	SSM FIM	0.1 –	0.1 0.14	56.0	10 ⁻⁴ –10 ⁻¹	20 ± 2 °C; r.o.o.g.	[19]
	K⁺-67 (<i>w</i> = 1 %), PVC (<i>w</i> = 32.6 %), dinonyl adipate (<i>w</i> = 66 %), NaTPB (<i>w</i> = 0.4 %)	NH ₄ ⁺ , -1.9 Na ⁺ , -2.9	SSM FIM	0.1 –	0.1 0.14	56.0 ± 0.7	10 ⁻⁴ –10 ⁻¹	20 ± 2 °C	[19]
K⁺-68	K⁺-68 (<i>w</i> = 1 %), dinonyl adipate (<i>w</i> = 66 %), PVC (<i>w</i> = 32.6 %), NaTPB (<i>x</i> _i = 55 %)	NH ₄ ⁺ , -2.2 Na ⁺ , -3.2	SSM FIM	0.1 –	0.1 0.14	57.6 ± 0.3	10 ⁻⁴ –10 ⁻¹	20 ± 2 °C	[19]
K⁺-69	K⁺-69 (<i>w</i> = 1 %), PVC (<i>w</i> = 32.6 %), dinonyl adipate (<i>w</i> = 66 %), NaTPB (<i>x</i> _i = 120 %)	NH ₄ ⁺ , -2.2 Na ⁺ , -3.3	SSM FIM	0.1 –	0.1 0.14	57.9 ± 0.5	10 ⁻⁴ –10 ⁻¹	20 ± 2 °C	[19]

Table 4: K⁺-Selective Electrodes (Continued)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
K⁺-70	K⁺-70 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 65 %), PVC (<i>w</i> = 33 %)	Li ⁺ , -2.6; NH ₄ ⁺ , -1.8;	SSM	0.1	0.1	49.9	10 ⁻⁴ –10 ⁻¹	20 ± 2 °C;	[19]
		Mg ²⁺ , -3.3; Ca ²⁺ , -3.6 Na ⁺ , -2.7	FIM	–	0.14			r.o.o.g.	
K⁺-71	K⁺-71 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 65 %), PVC (<i>w</i> = 33 %)	NH ₄ ⁺ , -1.4; Mg ²⁺ , -3.1;	SSM	0.1	0.1	42.3	10 ⁻⁴ –10 ⁻¹	20 ± 2 °C;	[19]
		Ca ²⁺ , -2.7 Na ⁺ , -2.2	FIM	–	0.14			r.o.o.g.	
K⁺-72	K⁺-72 (<i>w</i> = 2 %), oNPOE (<i>w</i> = 65 %), PVC (<i>w</i> = 33 %)	NH ₄ ⁺ , -1.5; Mg ²⁺ , -3.4;	SSM	0.1	0.1	40.4	10 ⁻⁴ –10 ⁻¹	20 ± 2 °C;	[19]
		Ca ²⁺ , -3.3 Na ⁺ , -2.2	FIM	–	0.14			r.o.o.g.	
K⁺-73	K⁺-73 (<i>w</i> = 1 %), DOS (<i>w</i> = 66 %), PVC (<i>w</i> = 32.6 %), NaTPB (<i>x</i> _i = 130 %)	Li ⁺ , -3.5; Cs ⁺ , -2.1;	SSM	0.1	0.1	58.0 ± 3	10 ⁻⁴ –10 ⁻¹	20 ± 2 °C;	[19]
		NH ₄ ⁺ , -1.9; Ca ²⁺ , -4.6 Na ⁺ , -3.7	FIM	–	0.14			r.o.o.g.	
K⁺-74	K⁺-74 (<i>w</i> = 1 %), DOS (<i>w</i> = 66 %), PVC (<i>w</i> = 32.6 %), NaTPB (<i>x</i> _i = 100 %)	Li ⁺ , -3.2; Cs ⁺ , -1.7;	SSM	0.1	0.1	55.2 ± 0.8	10 ⁻⁴ –10 ⁻¹	20 ± 2 °C;	[19]
		NH ₄ ⁺ , -1.8; Ca ²⁺ , -3.7 Na ⁺ , -2.3	FIM	–	0.14			r.o.o.g.	
K⁺-75	K⁺-75 (<i>w</i> = 1.4 %), oNPOE (<i>w</i> = 65.2 %), KTPClPB (<i>x</i> _i = 50 %), PVC (<i>w</i> = 32.8 %)	Li ⁺ , -0.28; Na ⁺ , -0.55;	SSM	0.1	0.1	–	–	FIA;	[22]
		Rb ⁺ , +0.20; Cs ⁺ , +0.88;						Ag CWE	
		Mg ²⁺ , -1.2; Ca ²⁺ , +0.15;							
		Sr ²⁺ , +0.45							
K⁺-75	K⁺-75 (<i>w</i> = 1.4 %), oNPPE (<i>w</i> = 65.2 %), KTPClPB (<i>x</i> _i = 50 %), PVC (<i>w</i> = 32.8 %)	Li ⁺ , -0.35; Na ⁺ , -0.62;	SSM	–	0.1				
		Rb ⁺ , +0.15; Cs ⁺ , +0.92;	(<i>E</i> _A = <i>E</i> _B)						
K⁺-75	K⁺-75 (<i>w</i> = 1.4 %), oNPPE (<i>w</i> = 65.2 %), KTPClPB (<i>x</i> _i = 50 %), PVC (<i>w</i> = 32.8 %)	Mg ²⁺ , -1.2; Ca ²⁺ , +0.20;							
		Sr ²⁺ , +0.60							
K⁺-75	K⁺-75 (<i>w</i> = 1.4 %), oNPPE (<i>w</i> = 65.2 %), KTPClPB (<i>x</i> _i = 50 %), PVC (<i>w</i> = 32.8 %)	Li ⁺ , -1.4; Na ⁺ , -1.7;	SSM	0.1	0.1	–	–	FIA;	[22]
		Rb ⁺ , +0.20; Cs ⁺ , +0.82;						Ag CWE	
		Mg ²⁺ , -2.8; Ca ²⁺ , +0.46;							
K⁺-75	K⁺-75 (<i>w</i> = 1.4 %), oNPPE (<i>w</i> = 65.2 %), KTPClPB (<i>x</i> _i = 50 %), PVC (<i>w</i> = 32.8 %)	Sr ²⁺ , +1.2							
		Li ⁺ , -1.4; Na ⁺ , -1.7;	SSM		0.1				
K⁺-75	K⁺-75 (<i>w</i> = 1.4 %), oNPPE (<i>w</i> = 65.2 %), KTPClPB (<i>x</i> _i = 50 %), PVC (<i>w</i> = 32.8 %)	Rb ⁺ , +0.20; Cs ⁺ , +0.72;	(<i>E</i> _A = <i>E</i> _B)						
		Mg ²⁺ , -2.5; Ca ²⁺ , +0.46;							
K⁺-75	K⁺-75 (<i>w</i> = 1.4 %), oNPPE (<i>w</i> = 65.2 %), KTPClPB (<i>x</i> _i = 50 %), PVC (<i>w</i> = 32.8 %)	Sr ²⁺ , +0.97							

continues on next page

Table 4: K⁺-Selective Electrodes (Continued)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
K ⁺ -76	K ⁺ -75 (<i>w</i> = 1.5 %), oNPOE (<i>w</i> = 65 %), PVC (<i>w</i> = 33 %), KTPCIPB (<i>x</i> ₁ = 21 %)	Li ⁺ , -2.3; Na ⁺ , -2.1; Mg ²⁺ , -2.6; Ca ²⁺ , -2.6; Sr ²⁺ , -1.9	SSM (<i>E</i> _A = <i>E</i> _B)	0.1	–	–	–	Ag CWE; 0.14 M NaCl background;	[28]
		Na ⁺ , -2.5	FIM	–	0.140			FIA	
K ⁺ -77	K ⁺ -76 (<i>w</i> = 1.5 %), oNPOE (<i>w</i> = 65 %), PVC (<i>w</i> = 33 %), KTPCIPB (<i>x</i> ₁ = 27 %)	Li ⁺ , -2.2; Na ⁺ , -2.1; Mg ²⁺ , -2.2; Ca ²⁺ , -1.9; Sr ²⁺ , -0.82	SSM (<i>E</i> _A = <i>E</i> _B)	–	0.1	–	–	Ag CWE; 0.14 M NaCl background;	[28]
		Na ⁺ , -2.5	FIM	–	0.140			FIA	
K ⁺ -78	K ⁺ -77 (<i>w</i> = 1.5 %), oNPOE (<i>w</i> = 65 %), PVC (<i>w</i> = 33 %), KTPCIPB (<i>x</i> ₁ = 24 %)	Li ⁺ , -2.0; Na ⁺ , -1.9; Mg ²⁺ , -1.9; Ca ²⁺ , -1.2; Sr ²⁺ , -0.42	SSM (<i>E</i> _A = <i>E</i> _B)	–	0.1	–	–	Ag CWE; 0.14 M NaCl background;	[28]
		Na ⁺ , -2.5	FIM	–	0.140			FIA	
K ⁺ -79	K ⁺ -78 (<i>w</i> = 1.5 %), oNPOE (<i>w</i> = 65 %), PVC (<i>w</i> = 33 %), KTPCIPB (<i>x</i> ₁ = 27 %)	Li ⁺ , -1.9; Na ⁺ , -1.7; Mg ²⁺ , -1.7; Ca ²⁺ , -1.1; Sr ²⁺ , -0.41	SSM (<i>E</i> _A = <i>E</i> _B)	–	0.1	–	–	Ag CWE; 0.14 M NaCl background;	[28]
		Na ⁺ , -2.0	FIM	–	0.140			FIA	
K ⁺ -80	K ⁺ -79 (<i>w</i> = 1.5 %), oNPOE (<i>w</i> = 65 %), PVC (<i>w</i> = 33 %), KTPCIPB (<i>x</i> ₁ = 34 %)	Li ⁺ , +0.1; Na ⁺ , -0.49; Mg ²⁺ , -1.0; Ca ²⁺ , -0.52; Sr ²⁺ , +0.41	SSM (<i>E</i> _A = <i>E</i> _B)	–	0.1	–	–	Ag CWE; 0.14 M NaCl background;	[28]
		Na ⁺ , -1.0	FIM	–	0.140			FIA	
K ⁺ -81	K ⁺ -80 (<i>w</i> = 1.5 %), oNPOE (<i>w</i> = 65 %), PVC (<i>w</i> = 33 %), KTPCIPB (<i>x</i> ₁ = 31 %)	Li ⁺ , -1.0; Na ⁺ , -0.89; Mg ²⁺ , -1.4; Ca ²⁺ , -1.0; Sr ²⁺ , +0.079	SSM (<i>E</i> _A = <i>E</i> _B)	–	0.1	–	–	Ag CWE; 0.14 M NaCl background;	[28]
		Na ⁺ , -1.3	FIM	–	0.140			FIA	
K ⁺ -82	K ⁺ -81 (<i>w</i> ≈ 1 %), DOS (<i>w</i> = 61–66 %), PVC (<i>w</i> = 33–38 %)	Na ⁺ , -1.90	FIM	–	0.1	57.7	–		[29]
		K ⁺ -81 (<i>w</i> ≈ 1 %), KTPB (<i>x</i> ₁ < 100 %), DOS (<i>w</i> = 61–66 %), PVC (<i>w</i> = 33–38 %)	Na ⁺ , -2.15	FIM	–	0.1	54.3	–	
K ⁺ -82	K ⁺ -82 (<i>w</i> ≈ 1 %), PVC (<i>w</i> = 33–38 %), DOS (<i>w</i> = 61–66 %)	Na ⁺ , -2.66	FIM	–	0.1	50.0	–		[29]
		K ⁺ -82 (<i>w</i> ≈ 1 %), KTPB (<i>x</i> ₁ < 100 %), Na ⁺ , -3.05	FIM	–	0.1	53.5	–		[29]

Table 4: K⁺-Selective Electrodes (Continued)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
K⁺-83	DOS (<i>w</i> = 61–66 %), PVC (<i>w</i> = 33–38 %)	Na ⁺ , –2.32	FIM	–	0.1	54.2	–		[29]
	K⁺-83 (<i>w</i> ≈ 1 %), PVC (<i>w</i> = 33–38 %), DOS (<i>w</i> = 61–66 %)	Na ⁺ , –2.19	FIM	–	0.1	50.0	–		[29]
	K⁺-83 (<i>w</i> ≈ 1 %), DOS (<i>w</i> = 61–66 %), KTPB (<i>x</i> _i < 100 %), PVC (<i>w</i> = 33–38 %)	Na ⁺ , –1.76	FIM	–	0.1	52.5	–		[29]
K⁺-84	K⁺-84 (<i>w</i> ≈ 1 %), PVC (<i>w</i> = 33–38 %), KTPCIPB or KTPB (<i>x</i> _i < 100 %), DOS (<i>w</i> = 61–66 %)	Na ⁺ , –2.25	FIM	–	0.1	53.6	–		[29]
K⁺-85	K⁺-85 (<i>w</i> ≈ 1 %), PVC (<i>w</i> = 33–38 %), DOS (<i>w</i> = 61–66 %), KTPCIPB or KTPB (<i>x</i> _i < 100 %)	Na ⁺ , –2.25	FIM	–	0.1	48.7	–		[29]
K⁺-86	K⁺-87 (<i>w</i> ≈ 1 %), DOS (<i>w</i> = 61–66 %), PVC (<i>w</i> = 33–38 %), KTPCIPB (<i>x</i> _i = 100 %)	Na ⁺ , –2.16	FIM	–	0.1	52.8	–		[29]
K⁺-87	K⁺-87 (<i>w</i> ≈ 1 %), DOS (<i>w</i> = 61–66 %), PVC (<i>w</i> = 33–38 %)	Na ⁺ , –1.23	FIM	–	0.1	51.5	–		[29]
K⁺-88	K⁺-88 (<i>w</i> ≈ 1 %), DOS (<i>w</i> = 61–66 %), PVC (<i>w</i> = 33–38 %)	Na ⁺ , –1.40	FIM	–	0.1	52.5	–		[29]
K⁺-89	K⁺-89 (<i>w</i> = 6.7 %), oNPOE (<i>w</i> = 63 %), PVC (<i>w</i> = 30.3 %)	Li ⁺ , –2.9; Na ⁺ , –3.5; Rb ⁺ , –0.7; Cs ⁺ , –2.2; NH ₄ ⁺ , –1.8; Mg ²⁺ , –4.0; Ca ²⁺ , –3.6	MSM	–	–	–	–	r.o.o.g.	[30]
K⁺-90	K⁺-90 (<i>w</i> = 6.7 %), oNPOE (<i>w</i> = 63 %),	Li ⁺ , –2.4; Na ⁺ , –2.5; Rb ⁺ , +1.2; Cs ⁺ , +0.8;	MSM	–	–	–	–	r.o.o.g.	[30]

continues on next page

Table 4: K⁺-Selective Electrodes (*Continued*)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
	PVC (<i>w</i> = 30.3 %)	NH ₄ ⁺ , -1.0; Mg ²⁺ , -3.6; Ca ²⁺ , -3.2							
K⁺-91	K⁺-91 (<i>w</i> = 6.7 %), oNPOE (<i>w</i> = 63 %), PVC (<i>w</i> = 30.3 %)	Li ⁺ , -3.0; Na ⁺ , -3.5; Rb ⁺ , -0.9; Cs ⁺ , -2.1; NH ₄ ⁺ , -1.9; Mg ²⁺ , -3.6; Ca ²⁺ , -3.5	MSM	–	–	–	–	r.o.o.g.	[30]
K⁺-92	K⁺-92 (<i>w</i> = 6.7 %), oNPOE (<i>w</i> = 63 %), PVC (<i>w</i> = 30.3 %)	Li ⁺ , -2.4; Na ⁺ , -2.5; Rb ⁺ , +1.3; Cs ⁺ , +1.5; NH ₄ ⁺ , -1.0; Mg ²⁺ , -3.8; Ca ²⁺ , -3.5	MSM	–	–	–	–	r.o.o.g.	[30]
K⁺-93	K⁺-93 (<i>w</i> = 6.7 %), oNPOE (<i>w</i> = 63 %), PVC (<i>w</i> = 30.3 %)	Li ⁺ , -2.5; Na ⁺ , -2.2; Rb ⁺ , +1.0; Cs ⁺ , +2.3; NH ₄ ⁺ , -1.0; Mg ²⁺ , -3.4; Ca ²⁺ , -3.3	MSM	–	–	–	–	r.o.o.g.	[30]
K⁺-94	K⁺-94 (<i>w</i> = 6.7 %), oNPOE (<i>w</i> = 63 %), PVC (<i>w</i> = 30.3 %)	Li ⁺ , -3.0; Na ⁺ , -3.6; Rb ⁺ , -1.0; Cs ⁺ , -1.9; NH ₄ ⁺ , -2.0; Mg ²⁺ , -3.8; Ca ²⁺ , -3.8	MSM	–	–	–	–	r.o.o.g.	[30]
K⁺-95	K⁺-95 (<i>w</i> = 6.7 %), oNPOE (<i>w</i> = 63 %), PVC (<i>w</i> = 30.3 %)	Li ⁺ , -2.7; Na ⁺ , -3.6; Rb ⁺ , -0.9; Cs ⁺ , -2.2; NH ₄ ⁺ , -1.8; Mg ²⁺ , -3.9; Ca ²⁺ , -3.6	MSM	–	–	–	–	r.o.o.g.	[30]
K⁺-96	K⁺-96 (<i>w</i> = 6.7 %), oNPOE (<i>w</i> = 63 %), PVC (<i>w</i> = 30.3 %)	Li ⁺ , -2.8; Na ⁺ , -3.7; Rb ⁺ , -1.0; Cs ⁺ , -2.2; NH ₄ ⁺ , -1.8; Mg ²⁺ , -3.9; Ca ²⁺ , -3.6	MSM	–	–	–	–	r.o.o.g.	[30]
K⁺-97	K⁺-97 (<i>w</i> = 6.7 %), oNPOE (<i>w</i> = 63 %), PVC (<i>w</i> = 30.3 %)	Li ⁺ , -2.4; Na ⁺ , -2.5; Rb ⁺ , +1.3; Cs ⁺ , +0.9; NH ₄ ⁺ , -1.0; Mg ²⁺ , -3.8; Ca ²⁺ , -3.5	MSM	–	–	–	–	r.o.o.g.	[30]
K⁺-98	K⁺-98 (<i>w</i> = 6.7 %), oNPOE (<i>w</i> = 63 %), PVC (<i>w</i> = 30.3 %)	Li ⁺ , -2.8; Na ⁺ , -3.5; Rb ⁺ , -0.8; Cs ⁺ , -2.2; NH ₄ ⁺ , -1.8; Mg ²⁺ , -3.8; Ca ²⁺ , -3.6	MSM	–	–	–	–	r.o.o.g.	[30]
K⁺-99	K⁺-99 (<i>w</i> = 6.7 %),	Li ⁺ , -2.5; Na ⁺ , -2.5;	MSM	–	–	–	–	r.o.o.g.	[30]

Table 4: K⁺-Selective Electrodes (Continued)

ionophore	membrane composition	$\lg K_{K^+, B^{n+}}$	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
	oNPOE (w = 63 %), PVC (w = 30.3 %)	Rb ⁺ , +1.2; Cs ⁺ , +1.4; NH ₄ ⁺ , -1.1; Mg ²⁺ , -3.5; Ca ²⁺ , -3.1							
K⁺-100	K⁺-100 (w = 6.7 %), oNPOE (w = 63 %), PVC (w = 30.3 %)	Li ⁺ , -2.2; Na ⁺ , -3.5; Rb ⁺ , -0.8; Cs ⁺ , -2.0; NH ₄ ⁺ , -1.9; Mg ²⁺ , -3.3; Ca ²⁺ , -3.2	MSM	–	–	–	–	r.o.o.g.	[30]
K⁺-101	K⁺-101 (w = 6.7 %), oNPOE (w = 63 %), PVC (w = 30.3 %)	Li ⁺ , -2.4; Na ⁺ , -2.7; Rb ⁺ , -0.8; Cs ⁺ , -1.4; NH ₄ ⁺ , -1.7; Mg ²⁺ , -3.5; Ca ²⁺ , -2.7	MSM	–	–	–	–	r.o.o.g.	[30]
K⁺-102	K⁺-102 (w = 6.7 %), oNPOE (w = 63 %), PVC (w = 30.3 %)	Li ⁺ , -2.2; Na ⁺ , -2.6; Rb ⁺ , +0.8; Cs ⁺ , +0.8; NH ₄ ⁺ , -1.2; Mg ²⁺ , -4.0; Ca ²⁺ , -4.1	MSM	–	–	–	–	r.o.o.g.	[30]
K⁺-103	K⁺-103 (w = 6.7 %), oNPOE (w = 63 %), PVC (w = 30.3 %)	Li ⁺ , -2.3; Na ⁺ , -3.0; Rb ⁺ , -1.2; Cs ⁺ , -1.7; NH ₄ ⁺ , -1.9; Mg ²⁺ , -3.4; Ca ²⁺ , -2.7	MSM	–	–	–	–	r.o.o.g.	[30]
K⁺-104	K⁺-104 (w = 6.7 %), oNPOE (w = 63 %), PVC (w = 30.3 %)	Li ⁺ , -2.4; Na ⁺ , -2.2; Rb ⁺ , +0.5; Cs ⁺ , +1.1; NH ₄ ⁺ , -1.4; Mg ²⁺ , -4.0; Ca ²⁺ , -3.8	MSM	–	–	–	–	r.o.o.g.	[30]
K⁺-105	K⁺-105 (w = 6.7 %), oNPOE (w = 63 %), PVC (w = 30.3 %)	Li ⁺ , -2.6; Na ⁺ , -3.1; Rb ⁺ , -1.1; Cs ⁺ , -2.0; NH ₄ ⁺ , -1.9; Mg ²⁺ , -3.6; Ca ²⁺ , -2.7	MSM	–	–	–	–	r.o.o.g.	[30]
K⁺-106	K⁺-106 (w = 6.7 %), oNPOE (w = 63 %), PVC (w = 30.3 %)	Li ⁺ , -2.2; Na ⁺ , -3.3; Rb ⁺ , -0.9; Cs ⁺ , -2.2; NH ₄ ⁺ , -2.0; Mg ²⁺ , -3.3; Ca ²⁺ , -3.4	MSM	–	–	–	–	r.o.o.g.	[30]
K⁺-107	K⁺-107 (w = 6.7 %), oNPOE (w = 63 %), PVC (w = 30.3 %)	Li ⁺ , -2.1; Na ⁺ , -2.6; Rb ⁺ , +1.0; Cs ⁺ , +0.5; NH ₄ ⁺ , -1.3; Mg ²⁺ , -3.6; Ca ²⁺ , -3.0	MSM	–	–	–	–	r.o.o.g.	[30]

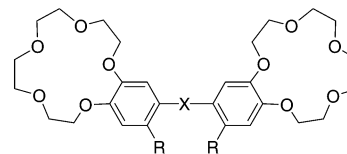
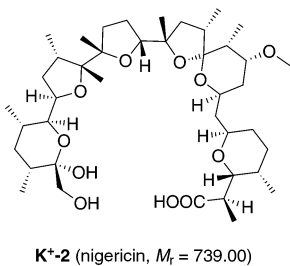
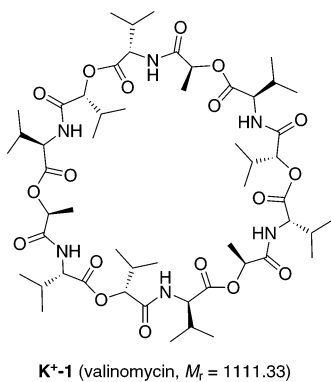
continues on next page

Table 4: K⁺-Selective Electrodes (Continued)

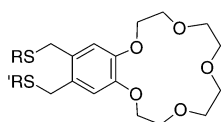
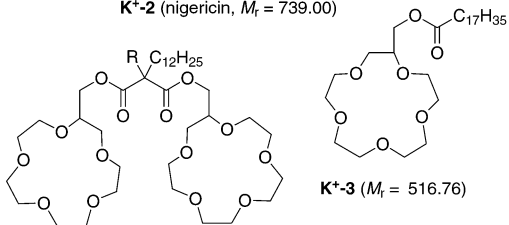
ionophore	membrane composition	lgK _{K⁺,Bⁿ⁺}	method	primary ion conc. (M)	interfering ion conc. (M)	slope (mV/decade)	linear range (M)	remarks	ref.
K⁺-108	K⁺-108 (w = 6.7 %), oNPOE (w = 63 %), PVC (w = 30.3 %)	Li ⁺ , -2.2; Na ⁺ , -2.1; Rb ⁺ , +0.8; Cs ⁺ , +1.3; NH ₄ ⁺ , -1.3; Mg ²⁺ , -3.7; Ca ²⁺ , -3.3	MSM	-	-	-	-	r.o.o.g.	[30]
K⁺-109	K⁺-109 (w = 6.7 %), oNPOE (w = 63 %), PVC (w = 30.3 %)	Li ⁺ , -2.9; Na ⁺ , -2.1; Rb ⁺ , +0.7; Cs ⁺ , +1.3; NH ₄ ⁺ , -1.1; Mg ²⁺ , -3.5; Ca ²⁺ , -3.9	MSM	-	-	-	-	r.o.o.g.	[30]

- (1) P.C. Hauser, D.W.L. Chiang, G.A. Wright, *Anal. Chim. Acta*, **302**, 241–248 (1995).
- (2) R.E. Farrell, A.D. Scott, *Soil Sci. Soc. Am. J.*, **51**, 594–598 (1987).
- (3) K. Kimura, H. Tamura, T. Shono, *J. Chem. Soc., Chem. Commun.*, 492–493 (1983).
- (4) K. Kimura, A. Ishikawa, H. Tamura, T. Shono, *J. Chem. Soc. Perkin Trans. 2*, 447–450 (1984).
- (5) H. An, Y. Wu, Z. Zhang, R.M. Izatt, J.S. Bradshaw, *J. Inclusion Phenom. Mol. Recognit. Chem.*, **11**, 303–311 (1991).
- (6) A. Li, Z. Zhijun, Y. Wu, H. An, R.M. Izatt, J.S. Bradshaw, *J. Inclusion Phenom. Mol. Recognit. Chem.*, **15**, 317–327 (1993).
- (7) J. Jeney, K. Toth, E. Lindner, E. Pungor, *Microchem. J.*, **45**, 232–247 (1992).
- (8) J. Wasilewski, J. F. Biernat, *J. Inclusion Phenom. Mol. Recognit. Chem.*, **10**, 109–118 (1991).
- (9) M.B. Saleh, F. Taha, G.S. Aof, *Fresenius' J. Anal. Chem.*, **346**, 919–923 (1993).
- (10) M.B. Saleh, F. Taha, G.S. Aof, *Electroanalysis*, **7**, 770–773 (1995).
- (11) P.D. van der Wal, M. S.–Ptasinska, A.V.D. Berg, P. Bergveld, E.J.R. Sudholter, D. N. Reinhoudt, *Anal. Chim. Acta*, **231**, 41–52 (1990).
- (12) P. Anker, H.-B. Jenny, U. Wuthier, R. Asper, D. Ammann, W. Simon, *Clin. Chem.*, **29**, 1447–1448 (1983).
- (13) B.M. Buchheister, K. Herna, M.M. Schindler, J.G. Schindler, *Fresenius' J. Anal. Chem.*, **347**, 141–144 (1993).
- (14) J. R. Haak, P. D. van der Wal, D.N. Reinhoudt, *Sens. Actuators B*, **8**, 141–144 (1992).
- (15) E. Lindner, K. Toth, J. Jeney, M. Horvath, E. Pungor, I. Bitter, B. Agai, L. Toke, *Mikrochim. Acta*, **I**, 157–168 (1990).
- (16) G.G. Cross, T.M. Fyles, V.V. Suresh, *Talanta*, **41**, 1589–1595 (1994).
- (17) K. Suzuki, K. Tohda, H. Aruga, M. Matsuzoe, H. Inoue, T. Shirai, *Anal. Chem.*, **60**, 1714–1721 (1988).
- (18) M.-R. M. Bates, T.J. Cardwell, R.W. Cattrall, L.W. Deady, K. Murphy, *Aust. J. Chem.*, **44**, 1603–1613 (1991).
- (19) K. Toth, E. Lindner, M. Horvath, J. Jeney, I. Bitter, B. Agai, T. Meisel, L. Toke, *Anal. Lett.*, **22**, 1185–1207 (1989).
- (20) K.A. Brooks, J.R. Allen, P.W. Feldhoff, L.G. Bachas, *Anal. Chem.*, **68**, 1439–1443 (1996).
- (21) C. Dumschat, S. Alazard, S. Adam, M. Knoll, K. Cammann, *Analyst*, **121**, 527–529 (1996).
- (22) A.S. Attiyat, G.D. Christian, J.L. Hallman, R.A. Bartsch, *Talanta*, **35**, 789–794 (1988).
- (23) I.A. Mostert, P. Anker, H.-B. Jenny, U. Oesch, W.E. Morf, D. Ammann, W. Simon, *Mikrochim. Acta*, **I**, 33–38 (1985).
- (24) T.M. Ambrose, M.E. Meyerhoff, *Electroanalysis*, **8**, 1095–1100 (1996).
- (25) G.J. Moody, B.B. Saad, J.D.R. Thomas, *Analyst*, **114**, 15–20 (1989).
- (26) C. Espadas-Torre, M.E. Meyerhoff, *Anal. Chem.*, **67**, 3108–3114 (1995).
- (27) G.S. Cha, D. Liu, M.E. Meyerhoff, H.C. Cantor, A.R. Midgley, H.D. Goldberg, R.B. Brown, *Anal. Chem.*, **63**, 1666–1672 (1991).
- (28) A.S. Attiyat, G.D. Christian, C.V. Cason, R.A. Bartsch, *Electroanalysis*, **4**, 51–56 (1992).
- (29) A.K. Covington, H. Grey, P.M. Kelly, K.I. Kinnear, J.C. Lockhart, *Analyst*, **113**, 895–897 (1988).
- (30) E. Luboch, A. Cygan, J.F. Biernat, *Talanta*, **47**, 4101–4112 (1991).
- (31) V.V. Cosofret, M. Erdösy, T. A. Johnson, R.P. Buck, R.B. Ash, M.R. Neuman, *Anal. Chem.*, **67**, 1647–1653 (1995).
- (32) M. Hartnett, D. Diamond, *Anal. Chem.*, **69**, 1909–1918 (1997).
- (33) G. Hogg, O. Lutze, K. Cammann, *Anal. Chim. Acta*, **335**, 103–109 (1996).
- (34) E. Malinowska, V. Oklejas, R.W. Hower, R.B. Brown, M.E. Meyerhoff, *Sens. Actuators B*, **33**, 161–167 (1996).

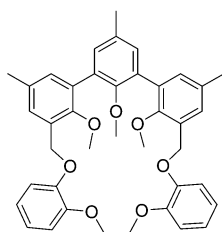
Table 4: K⁺-Selective Electrodes (Continued)



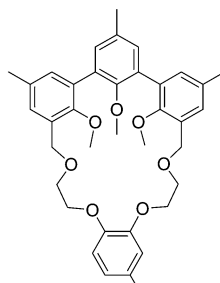
- K⁺-4** ($M_r = 720.81$): X = $-\text{CH}_2\text{OCO}(\text{CH}_2)_5\text{COOCH}_2-$, R = H
K⁺-6 ($M_r = 578.62$): X = $-\text{N}=\text{N}(\text{O})-$, R = H
K⁺-7 ($M_r = 650.74$): X = $-\text{COCH}_2\text{SCH}_2\text{CO}-$, R = H
K⁺-8 (BME 44, $M_r = 967.07$): X = $-\text{NHCOOCH}_2\text{C}(\text{CH}_3)(\text{C}_{12}\text{H}_{25})\text{CH}_2\text{OCONH}-$, R = NO_2
K⁺-34 ($M_r = 562.61$): X = $-\text{CO}-$, R = H
K⁺-35 ($M_r = 561.63$): X = $-\text{CH}=\text{N}-$, R = H
K⁺-36 ($M_r = 563.64$): X = $-\text{CH}_2\text{NH}-$, R = H
K⁺-63 ($M_r = 810.80$): X = $-\text{CH}_2\text{OCO}(\text{CH}_2)_5\text{COOCH}_2-$, R = NO_2
K⁺-64 ($M_r = 756.76$): X = $-\text{CH}_2(\text{OCH}_2\text{CH}_2)_2\text{OCH}_2-$, R = H
K⁺-65 ($M_r = 666.76$): X = $-\text{CH}_2(\text{OCH}_2\text{CH}_2)_2\text{OCH}_2-$, R = NO_2



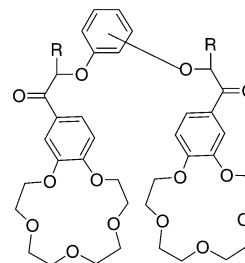
K⁺-33 ($M_r = 612.80$): R = 2-Naphthyl-



K⁺-9 ($M_r = 632.75$)



K⁺-10 ($M_r = 614.73$)



- K⁺-12** ($M_r = 726.77$): R = H, *m*-
K⁺-13 ($M_r = 726.77$): R = H, *p*-
K⁺-14 ($M_r = 754.83$): R = CH_3 , *o*-
K⁺-15 ($M_r = 754.83$): R = CH_3 , *p*-

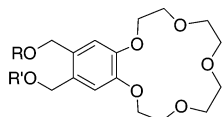
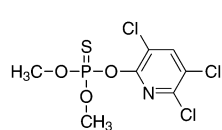
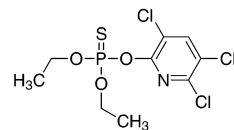
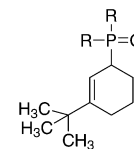
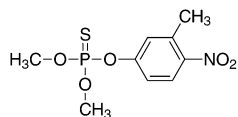
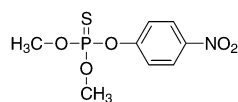
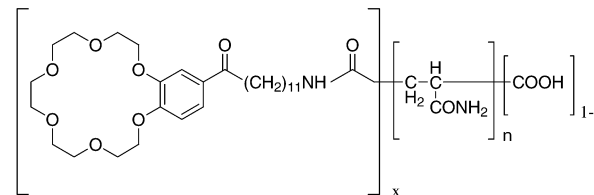
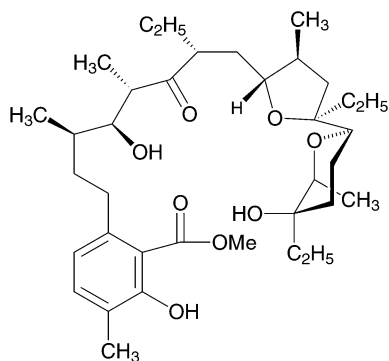
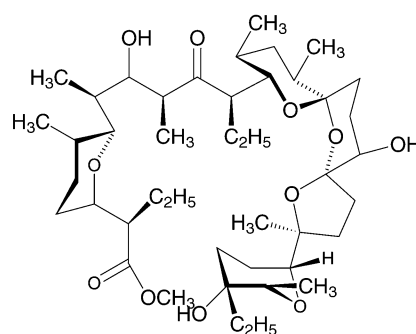
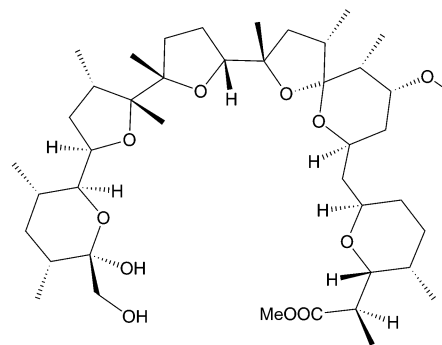
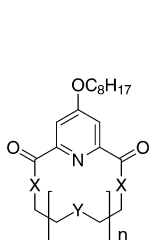
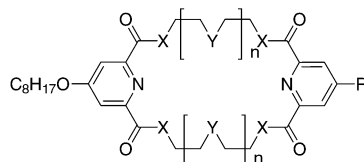
Table 4: K⁺-Selective Electrodes (*Continued*)**K⁺-16** ($M_r = 412.44$): R = R' = COCH₃**K⁺-17** ($M_r = 524.66$): R = R' = CO(CH₂)₄CH₃**K⁺-18** ($M_r = 692.97$): R = R' = CO(CH₂)₁₀CH₃**K⁺-19** ($M_r = 833.24$): R = R' = CO(CH₂)₁₅CH₃**K⁺-20** ($M_r = 536.58$): R = R' = COC₆H₅**K⁺-21** ($M_r = 564.63$): R = R' = COCH₂C₆H₅**K⁺-22** ($M_r = 596.63$): R = R' = COCH₂OC₆H₅**K⁺-23** ($M_r = 538.55$): R = R' = CO(3-Pyridyl)**K⁺-24** ($M_r = 752.42$): R = R' = CO(Ferrocenyl)**K⁺-25** ($M_r = 540.39$): R = H, R' = CO(Ferrocenyl)**K⁺-26** ($M_r = 384.47$): R = R' = CH₂CH₃**K⁺-27** ($M_r = 665.00$): R = R' = (CH₂)₁₁CH₃**K⁺-28** ($M_r = 480.56$): R = R' = C₆H₅**K⁺-29** ($M_r = 570.55$): R = R' = 4-Nitrophenyl-**K⁺-30** ($M_r = 632.75$): R = R' = 2-Biphenyl-**K⁺-31** ($M_r = 580.68$): R = R' = 1-Naphthyl-**K⁺-32** ($M_r = 580.68$): R = R' = 2-Naphthyl-**K⁺-37** ($M_r = 322.53$)**K⁺-38** ($M_r = 350.58$)**K⁺-41** ($M_r = 298.45$): R = -C₄H₉**K⁺-42** ($M_r = 407.32$): R = -C₆H₄Cl**K⁺-43** ($M_r = 338.43$): R = -C₆H₅**K⁺-44** ($M_r = 366.48$): R = -C₆H₄CH₃**K⁺-39** ($M_r = 277.23$)**K⁺-40** ($M_r = 263.20$)**K⁺-45** ($x = 0.2$)**K⁺-46** ($x = 0.7$)**K⁺-47** (Lasalocid methyl ester, $M_r = 618.85$)**K⁺-48** (Salinomycin methyl ester, $M_r = 767.05$)**K⁺-49** ($M_r = 753.02$) (Nigericin methyl ester)

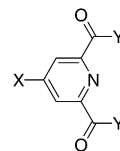
Table 4: K⁺-Selective Electrodes (Continued)



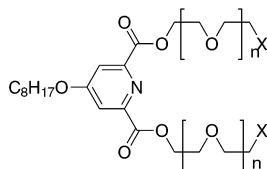
K⁺-50 ($M_r = 441.60$): X=O, Y=S, n=2
K⁺-51 ($M_r = 501.71$): X=O, Y=S, n=3
K⁺-52 ($M_r = 485.65$): X=S, Y=O, n=3



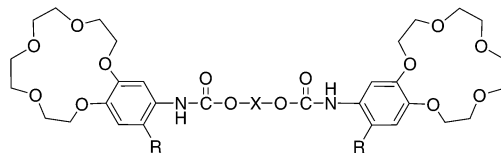
K⁺-53 ($M_r = 602.64$): X=O, Y=O, n=1, R=H
K⁺-54 ($M_r = 690.74$): X=O, Y=O, n=2, R=H
K⁺-55 ($M_r = 883.20$): X=O, Y=S, n=2,
R=OC₈H₁₇
K⁺-56 ($M_r = 1003.43$): X=O, Y=S, n=3,
R=OC₈H₁₇
K⁺-57 ($M_r = 883.20$): X=S, Y=O, n=2,
R=OC₈H₁₇



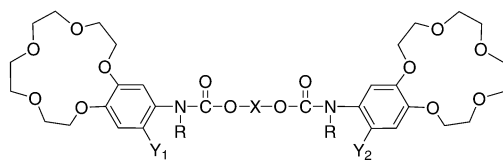
K⁺-58 ($M_r = 295.33$): X=OC₈H₁₇, Y=OH
K⁺-59 ($M_r = 323.39$): X=OC₈H₁₇, Y=OMe



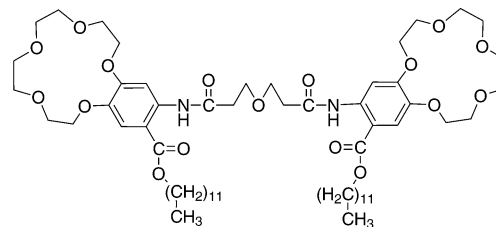
K⁺-60 ($M_r = 383.44$) n=0, X=OH
K⁺-61 ($M_r = 471.55$) n=1, X=OH
K⁺-62 ($M_r = 411.49$) n=0, X=OMe



K⁺-66 (BME 15, $M_r = 830.81$): X = -CH₂CH₂SCH₂CH₂-, R = NO₂
K⁺-67 (BME 171, $M_r = 995.13$): X = -CH₂(CH₂)₁₆CH₂-, R = NO₂
K⁺-68 (BME 54, $M_r = 812.78$): X = -CH₂C(CH₃)₂CH₂-, R = NO₂
K⁺-69 (BME 02/85, $M_r = 1023.18$): X = -CH₂C(CH₃)((CH₂)₁₅-CH₃)CH₂-,
R = NO₂

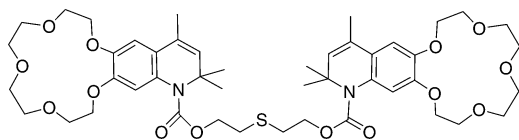
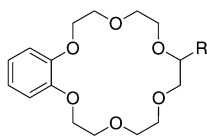
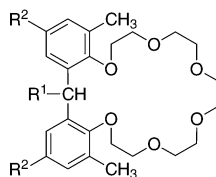
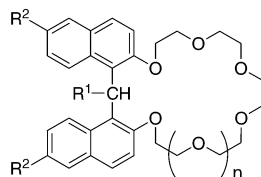
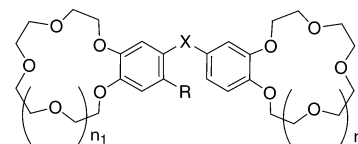


K⁺-70 (BME 107, $M_r = 785.82$): R = H, Y₁=NO₂, Y₂=H, X = -CH₂CH₂SCH₂CH₂-
K⁺-71 (BME 19-Me, $M_r = 858.87$): R = CH₃, Y₁=NO₂, Y₂=NO₂, X = -CH₂CH₂SCH₂CH₂-
K⁺-72 (BME 40, $M_r = 740.82$): R = H, Y₁=H, Y₂=H, X = -CH₂CH₂SCH₂CH₂-



K⁺-73 (BME 137, $M_r = 1117.42$)

continues on next page

Table 4: K⁺-Selective Electrodes (*Continued*)**K⁺-74** (BME 139, $M_r = 901.08$)**K⁺-75** ($M_r = 312.36$): R = H**K⁺-76** ($M_r = 342.39$): R = CH₂OH**K⁺-77** ($M_r = 356.41$): R = CH₂OCH₃**K⁺-78** ($M_r = 400.47$): R = CH₂OCH₂CH₂OCH₃**K⁺-79** ($M_r = 444.52$): R = CH₂O(CH₂CH₂O)₂CH₃**K⁺-80** ($M_r = 488.57$): R = CH₂O(CH₂CH₂O)₃CH₃**K⁺-87** ($M_r = 584.75$): R¹ = Naphthyl, R² = CH₃**K⁺-88** ($M_r = 506.64$): R¹ = Phenyl, R² = H**K⁺-81** ($M_r = 502.61$): R¹ = H, R² = H, n = 1**K⁺-82** ($M_r = 718.97$): R¹ = 2-CH₃-5-CH₃-C₆H₄, R² = C(CH₃)₃, n = 1**K⁺-83** ($M_r = 781.00$): R¹ = 3-OCH₃-4-OCH₃-5-OCH₃-C₆H₃, R² = C(CH₃)₃, n = 1**K⁺-84** ($M_r = 803.86$): R¹ = 2-Cl-6-Cl-C₆H₄, R² = C(CH₃)₃, n = 2**K⁺-85** ($M_r = 825.05$): R¹ = 3-OCH₃-4-OCH₃-5-OCH₃-C₆H₃, R² = C(CH₃)₃, n = 2**K⁺-86** ($M_r = 759.81$): R¹ = 2-Cl-6-Cl-C₆H₄, R² = C(CH₃)₃, n = 1**K⁺-89** ($M_r = 592.68$): n₁ = n₂ = 1, X = CH(OH)CH₂CH₂, R = H**K⁺-90** ($M_r = 636.74$): n₁ = 2, n₂ = 1, X = CH(OH)CH₂CH₂, R = H**K⁺-91** ($M_r = 576.68$): n₁ = n₂ = 1, X = (CH₂)₃, R = H**K⁺-92** ($M_r = 620.74$): n₁ = 2, n₂ = 1, X = (CH₂)₃, R = H**K⁺-93** ($M_r = 664.79$): n₁ = n₂ = 2, X = (CH₂)₃, R = H**K⁺-94** ($M_r = 704.90$): n₁ = n₂ = 1, X = CH(O-*n*-C₈H₁₇)CH₂CH₂,

R = H

K⁺-95 ($M_r = 761.00$): n₁ = n₂ = 1, X = CH(O-*n*-C₁₂H₂₅)CH₂CH₂,

R = H

K⁺-96 ($M_r = 817.11$): n₁ = n₂ = 1, X = CH(O-*n*-C₁₆H₃₃)CH₂CH₂,

R = H

K⁺-97 ($M_r = 748.95$): n₁ = 2, n₂ = 1, X = CH(O-*n*-C₈H₁₇)CH₂CH₂,

,

R = H

K⁺-98 ($M_r = 604.74$): n₁ = n₂ = 1, X = (CH₂)₃, R = C₂H₅**K⁺-99** ($M_r = 648.79$): n₁ = 2, n₂ = 1, X = (CH₂)₃, R = C₂H₅**K⁺-100** ($M_r = 688.90$): n₁ = n₂ = 1, X = (CH₂)₃, R = C₈H₁₇**K⁺-101** ($M_r = 632.70$): n₁ = n₂ = 1, X = CO(CH₂)₃CO, R = H**K⁺-102** ($M_r = 676.76$): n₁ = 1, n₂ = 2, X = CO(CH₂)₃CO, R = H**K⁺-103** ($M_r = 720.81$): n₁ = n₂ = 2, X = CO(CH₂)₃CO, R = H**K⁺-104** ($M_r = 833.02$): n₁ = n₂ = 2, X = CO(CH₂)₁₁CO, R = H**K⁺-105** ($M_r = 604.74$): n₁ = n₂ = 1, X = (CH₂)₅, R = H**K⁺-106** ($M_r = 716.95$): n₁ = n₂ = 1, X = (CH₂)₁₃, R = H**K⁺-107** ($M_r = 648.79$): n₁ = 1, n₂ = 2, X = (CH₂)₅, R = H**K⁺-108** ($M_r = 692.84$): n₁ = n₂ = 2, X = (CH₂)₅, R = H**K⁺-109** ($M_r = 805.06$): n₁ = n₂ = 2, X = (CH₂)₁₃, R = H