

Table S4. High Performance Liquid Chromatography – ECL systems.

Analyte	Luminophore /Coreactant ^a	Limit of Detection	Comments	Reference(s)
Amitriptyline	Ru(bpy) ₃ ²⁺	1 nM		266
Ascorbic Acid	Ru(bpy) ₃ ²⁺	0.1 μM		492
Atenolol	Ru(bpy) ₃ ²⁺	0.5 μM		267
Benzylamine	Ru(bpy) ₃ ²⁺	0.56 μM		493
Citric Acid	Ru(bpy) ₃ ²⁺	0.14 μM		494
Clomipramine	Ru(bpy) ₃ ²⁺	5.3 nM		266
Cobalt emetine dithiocarbamate metal complex	Ru(bpy) ₃ ²⁺	1 nM		495
Copper emetine dithiocarbamate metal complex	Ru(bpy) ₃ ²⁺	1 nM		495
Dehydroascorbic Acid	Ru(bpy) ₃ ²⁺	0.1 μM		492
Desipramine	Ru(bpy) ₃ ²⁺	1.1 nM		266
Diethanolamine	Ru(bpy) ₃ ²⁺	1.25 μM	Derivatization by epichlorohydrin to tertiary amines	496
2,5-dimethyl-2,4-hexadiene	Ru(bpy) ₃ ²⁺	0.03 μM		497
Disopyramide	Ru(bpy) ₃ ²⁺	0.44 μM		498
Domoic Acid	Ru(bpy) ₃ ²⁺	1.3 nM		499
Doxepin	Ru(bpy) ₃ ²⁺	1.6 nM		266
Ethanol	Ru(bpy) ₃ ²⁺	2 nM	Derivatization with 3-(diethylamino)propionic acid	500
Gallic Acid	Ru(bpy) ₃ ²⁺ /TP rA	9 nM	Quenching of Ru Ru(bpy) ₃ ²⁺ /TP rA ECL	73
D-gluconic Acid	Ru(bpy) ₃ ²⁺	0.025 M		494
Glycine	Ru(bpy) ₃ ²⁺	2 μM	Amino acids electrochemically oxidized to oxalate.	501
Glycine	Ru(bpy) ₃ ²⁺	0.338 μM	Derivatized with divinylsulfone	502
Heteropolyacids	Ru(bpy) ₃ ²⁺	----		503
Histidine	Ru(bpy) ₃ ²⁺	0.8 μM	Derivatized with divinylsulfone	502
Hydroxyproline	Ru(bpy) ₃ ²⁺	3 x 10 ⁻⁵ M	Rat urine.	504
Hydroxyproline	Ru(bpy) ₃ ²⁺	----	Serum of bedridden elderly	505
2,4-hexadiene	Ru(bpy) ₃ ²⁺	0.05 μM		497
Ibuprofen	Ru(bpy) ₃ ²⁺	0.9 nM	Derivatization with 2-(2-aminomethyl)-	506

			1-methylpyrrolidine and N-(3-amino-propyl)pyrrolidine.	
Imipramine	$\text{Ru}(\text{bpy})_3^{2+}$	2.8 nM		266
Malic Acid	$\text{Ru}(\text{bpy})_3^{2+}$	0.16 μM		494
Maprotiline	$\text{Ru}(\text{bpy})_3^{2+}$	0.75 nM		266
Matrine	$\text{Ru}(\text{bpy})_3^{2+}$	0.24 nM		507
Metoprolol	$\text{Ru}(\text{bpy})_3^{2+}$	8 nM		267
Monoethanolamine	$\text{Ru}(\text{bpy})_3^{2+}$	1.5 μM	Derivatization by epichlorohydrin to tertiary amines	496
Myristic Acid	$\text{Ru}(\text{bpy})_3^{2+}$	5×10^{-11} M	Derivatization with 3-isobutyl-9,10-dimethoxy-1,3,4,6,7,11b-hexahydro-2H-pyrido[2,1-a]isoquinoline-2-ylamine.	508
Myristic Acid	$\text{Ru}(\text{bpy})_3^{2+}$	1.4 nM	Derivatization with 2-(2-aminomethyl)-1-methylpyrrolidine and N-(3-amino-propyl)pyrrolidine.	504
Noroxycodone	$\text{Ru}(\text{bpy})_3^{2+}$	3.2 nM		509
Nortriptyline	$\text{Ru}(\text{bpy})_3^{2+}$	0.6 nM		266
Ofloxacin	$\text{Ru}(\text{bpy})_3^{2+}$	~ 28 μM		510
Oxalate	$\text{Ru}(\text{bpy})_3^{2+}$	----		511
Oxycodone	$\text{Ru}(\text{bpy})_3^{2+}$	1.6 nM		512
Phenylalanine	$\text{Ru}(\text{bpy})_3^{2+}$	0.55 μM		493
Phenylalanine	$\text{Ru}(\text{bpy})_3^{2+}$	10 nM	Derivatized with divinylsulfone	502
Phenylalanine	$\text{Ru}(\text{bpy})_3^{2+}$	5×10^{-8} M	Amino acids electrochemically oxidized to oxalate.	501
Phencyclidine	$\text{Ru}(\text{bpy})_3^{2+}$	6.5×10^{-8} M		513
Phenylbutyric Acid	$\text{Ru}(\text{bpy})_3^{2+}$	6×10^{-11} M	Derivatization with 3-isobutyl-9,10-dimethoxy-1,3,4,6,7,11b-hexahydro-2H-pyrido[2,1-a]isoquinoline-2-ylamine.	508
Proline	$\text{Ru}(\text{bpy})_3^{2+}$	----		511
Proline	$\text{Ru}(\text{bpy})_3^{2+}$	----	Serum of bedridden Elderly	514
2-propanone	$\text{Ru}(\text{bpy})_3^{2+}$	1.5 nM	Derivatized with	515

			methyImalonic acid.	
Sophoranol	$\text{Ru}(\text{bpy})_3^{2+}$	0.27 nM		507
Sophocarpine	$\text{Ru}(\text{bpy})_3^{2+}$	0.4 nM		507
Sophoridine	$\text{Ru}(\text{bpy})_3^{2+}$	0.12 nM		507
Sparteine	$\text{Ru}(\text{bpy})_3^{2+}$	0.125 nM		516
Tartaric Acid	$\text{Ru}(\text{bpy})_3^{2+}$	0.41 μM		494
Threonine	$\text{Ru}(\text{bpy})_3^{2+}$	$5 \times 10^{-8} \text{ M}$	Amino acids electrochemically oxidized to oxalate.	501
Tributylamine	$\text{Ru}(\text{bpy})_3^{2+}$	0.465 nM		517
Triethanolamine	$\text{Ru}(\text{bpy})_3^{2+}$	2 μM	Derivatization by epichlorohydrin to tertiary amines	496
Triethylamine	$\text{Ru}(\text{bpy})_3^{2+}$	5.4 nM		517
TPrA	$\text{Ru}(\text{bpy})_3^{2+}$	0.61 nM		517
Tryptophan	$\text{Ru}(\text{bpy})_3^{2+}$	0.98 μM		493
Trimipramine	$\text{Ru}(\text{bpy})_3^{2+}$	2.7 nM		266
Tetramethylthiuram disulfide	$\text{Ru}(\text{bpy})_3^{2+}$	0.3 μM		518
Valine	$\text{Ru}(\text{bpy})_3^{2+}$	7 nM	Derivatized with divinylsulfone	502
Yohimbine	$\text{Ru}(\text{bpy})_3^{2+}$	$8.5 \times 10^{-8} \text{ M}$		519

^aIf no coreactant is listed, then the analyte acted as the ECL coreactant.