

Table S6. ECL Assays for Clinical Applications.

Analyte	Luminophore/Coreactant ^a	References
AFP	Ru(bpy) ₃ ²⁺	377
AFP	Ru(bpy) ₃ ²⁺ /TPrA	293,294
Alcohols	Ru(bpy) ₃ ²⁺	551-553
Alicyclic tertiary amines	Ru(bpy) ₃ ²⁺	554
Amines (primary) – derivatized with DVS.	Ru(bpy) ₃ ²⁺	555
Amino Acids	Ru(bpy) ₃ ²⁺	555
Amino Acids	[Ru(bpy) ₂ dcbl]Cl ₂	556
Amino Acids	[Ru(bpy) ₂ dcbl]Cl ₂ thin films	556
Amitriptyline	Ru(bpy) ₃ ²⁺	557
Amino Acids (Dansylated)	Ru(bpy) ₃ ²⁺	558
β-amyloid peptide	Ru(bpy) ₃ ²⁺ /TPrA	350
Amyloid-β(40)	Ru(bpy) ₃ ²⁺ /TPrA	559
Anti-Borna disease antibodies	Ru(bpy) ₃ ²⁺ /TPrA	328-330
Antihistamines	Ru(bpy) ₃ ²⁺	558
Apo 8-100 gene mutation	Ru(bpy) ₃ ²⁺ /TPrA	374
Arginine	Ru(bpy) ₃ ²⁺	558
Ascorbic acid	Ru(bpy) ₃ ²⁺	558
Astrovirus	Ru(bpy) ₃ ²⁺	368
Atropine	Ru(bpy) ₃ ²⁺	558
BSA	Ru(bpy) ₃ ²⁺ /DMBD	560
Bupivacaine	Ru(bpy) ₃ ²⁺	558
Cancer Antigen 15-3	Ru(bpy) ₃ ²⁺ /TPrA	294,561
Cancer Antigen 19-9	Ru(bpy) ₃ ²⁺ /TPrA	294
Cancer Antigen 72-4	Ru(bpy) ₃ ²⁺ /TPrA	397
Cancer Antigen 125	Ru(bpy) ₃ ²⁺ /TPrA	562,563
Carbon dioxide	Ru(bpy) ₃ ²⁺ /NADH	564
Carcinoembryonic antigen	Ru(bpy) ₃ ²⁺ /TPrA	294,295
Cholesterol	Ru(bpy) ₃ ²⁺ /C ₂ O ₄ ²⁻	293
Choline	Luminol/H ₂ O ₂	565
chlorpromazine	Ru(bpy) ₃ ²⁺	558
Citrate	Ru(bpy) ₃ ²⁺	566
CKMB, creatine base	Ru(bpy) ₃ ²⁺ /TPrA	295,314 Error! Bookmark not defined.
Clindamycin-2-phosphate	Ru(bpy) ₃ ²⁺	558
Anti-CMV antibodies	Ru(bpy) ₃ ²⁺ /TPrA	327
CMV DNA	Ru(bpy) ₃ ²⁺ /TPrA	535
CMV mRNA	Ru(bpy) ₃ ²⁺ /TPrA	284

Codeine	$\text{Ru}(\text{bpy})_3^{2+}$	558
Coxsackievirus B3 RNA	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	567
Creatine kinase muscle brain	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	295,308
β -crosslaps	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	321-322
Cystic Fibrosis ΔF -508 deletion mutation	$\text{Ru}(\text{bpy})_3^{2+}$	352
Cytokeratin 19	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	303
Cytokine	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	568
Cytomegalovirus	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	331
Dengue virus RNA	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	357
Des- γ -carboxy prothrombin	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	304,305
Dextromethrophan	$\text{Ru}(\text{bpy})_3^{2+}$	558
Digoxin	$\text{Ru}(\text{bpy})_3^{2+}$	369
Digoxin	Luminol	569
Digoxin	Luminol	570
Dioxopromethazine	$\text{Ru}(\text{bpy})_3^{2+}/\text{dioxopromethazine}$	571
DNA Hybridization	$\text{Ru}(\text{bpy})_2(\text{dcbpy})^{2+}/\text{TPrA}$	96
Doxepin	$\text{Ru}(\text{bpy})_3^{2+}$	557
EDTA	$\text{Ru}(\text{bpy})_3^{2+}$	566
Emeline dithiocarbamate copper(II)	$\text{Ru}(\text{bpy})_3^{2+}$	566
Enterovirus	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	359
Epstein-Barr virus DNA	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	355
Erythromycin	$\text{Ru}(\text{bpy})_3^{2+}$	19,572
Estradiol	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	306
Ethanol	$\text{Ru}(\text{bpy})_3^{2+}/\text{NADH}$	564,573
Glycophosphate and related systems	$\text{Ru}(\text{bpy})_3^{2+}$	574
ΔF 508 deletion	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	376
Fatty amine ethoxylate surfactants	$\text{Ru}(\text{bpy})_3^{2+}$	562
Ferritin	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	294
FSH, follitropin	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	306
Foot-and-Mouth Disease	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	361
Glucose	$\text{Ru}(\text{bpy})_3^{2+}/\text{NADH}$	564,573
Glucose	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	575
Glucose	Luminol/ H_2O_2	565
Glutamate	Luminol/ H_2O_2	565
HAsAg, hepatitis A virus surface antigen	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	284
HBsAg, hepatitis B virus surface antigen	$\text{Ru}(\text{bpy})_3^{2+}/\text{TPrA}$	318-320,332

HCG	Ru(bpy) ₃ ²⁺ /TPrA	295,308
Heroin	Ru(bpy) ₃ ²⁺	558
Heroin	Ru(bpy) ₃ ²⁺	576
HIV DNA	Ru(bpy) ₃ ²⁺ /TPrA	352,362,363,364
HIV-1 Gag Gene	Ru(bpy) ₃ ²⁺	577
HIV-1 p7 antigen	Ru(bpy) ₃ ²⁺ /TPrA	350
HIV-1 RNA	Ru(bpy) ₃ ²⁺ /TPrA	353,363
HPIV 1/2/3	Ru(bpy) ₃ ²⁺ /TPrA	577
Hydrazine and hydrazine derivatives	Ru(bpy) ₃ ²⁺	19
Human C-Reactive Protein (hCRP)	Terbium Chelate via Cathodic Luminescence	578
IgE, immunoglobulin E	Ru(bpy) ₃ ²⁺ /TPrA	579
IgG, immunoglobulin G	Ru(bpy) ₃ ²⁺ /DMBD	560
Influenza virus RNA	Ru(bpy) ₃ ²⁺ /TPrA	360,361
Insulin	Ru(bpy) ₃ ²⁺ /TPrA	580,326
Interferon-γ	Ru(bpy) ₃ ²⁺ /TPrA	336
IL (Interleukin)-2	Ru(bpy) ₃ ²⁺ /TPrA	336
IL (Interleukin)-4	Ru(bpy) ₃ ²⁺ /TPrA	336
IL (Interleukin)-6	Ru(bpy) ₃ ²⁺ /TPrA	294
IL (Interleukin)-8	Ru(bpy) ₃ ²⁺ /TPrA	294
IL (Interleukin)-10	Ru(bpy) ₃ ²⁺ /TPrA	336
IL (Interleukin)-10	Ru(bpy) ₃ ²⁺ /TPrA	337,581
IL (Interleukin)-18 binding protein	Ru(bpy) ₃ ²⁺ /TPrA	337
Lactate	Ru(bpy) ₃ ²⁺	582
Lactate	Ru(bpy) ₃ ²⁺ /NADH	573
Lactate	Luminol/H ₂ O ₂	306
β-Lactamase	Ru(bpy) ₃ ²⁺ /Hydrolyzed β-Lactamase	573
Legionella antigen	Ru(bpy) ₃ ²⁺ /triethylamine	306
Leucine	Ru(bpy) ₃ ²⁺	558
CTC ₄ , Leukotriene	Ru(bpy) ₃ ²⁺ /TPrA	583
LTB ₄ , Leukotriene	Ru(bpy) ₃ ²⁺ /TPrA	583
LH, lutropin	Ru(bpy) ₃ ²⁺ /TPrA	306
lignocaine	Ru(bpy) ₃ ²⁺	584
Lysine	Luminol/H ₂ O ₂	565
Malonate	Ru(bpy) ₃ ²⁺	582
Morpholine Fungicides (dodemorph and tridemorph)	Ru(bpy) ₃ ²⁺	585
Nortriptyline	Ru(bpy) ₃ ²⁺	557
Oligonucleotides	TAMRA (Cathodic Luminescence)	586
Osteocalcin	Ru(bpy) ₃ ²⁺ /TPrA	323

Oxalate (C ₂ O ₄ ²⁻)	Ru(bpy) ₃ ²⁺	51,558
Oxaprenolol	Ru(bpy) ₃ ²⁺	558
Pancreatic phospholipase A2	Terbium chelate	39
Parathyroid hormone	Ru(bpy) ₃ ²⁺ /TPrA	586
Persulfate	Ru(bpy) ₃ ²⁺	587
Persulfate	Ru(bpz) ₃ ²⁺	420,588
Plasma vascular endothelial growth factor	Ru(bpy) ₃ ²⁺ /TPrA	589
Procaine	Ru(bpy) ₃ ²⁺	590
Procyclidine	Ru(bpy) ₃ ²⁺	558
Prolactin	Ru(bpy) ₃ ²⁺ /TPrA	306
Promazine	Ru(bpy) ₃ ²⁺	557
PGE2, Prostaglandin	Ru(bpy) ₃ ²⁺ /TPrA	583
PGD2, Prostaglandin	Ru(bpy) ₃ ²⁺ /TPrA	583
Prostrate specific antigen	Ru(bpy) ₃ ²⁺ /TPrA	295,298
Prothrombin	Ru(bpy) ₃ ²⁺ /TPrA	304,305
Prothrombin gene mutation	Ru(bpy) ₃ ²⁺ /TPrA	375
Pryogallol	Luminol	592
Pyruvate	Ru(bpy) ₃ ²⁺	557,565
mRNA	Ru(bpy) ₃ ²⁺ /TPrA	299-301
Serine	Ru(bpy) ₃ ²⁺	558
Serum interferon - α	Ru(bpy) ₃ ²⁺ /TPrA	337,358
St. Louis Encephalitis	Ru(bpy) ₃ ²⁺ /TPrA	358
Tartrate	Ru(bpy) ₃ ²⁺	566
Testosterone	Ru(bpy) ₃ ²⁺ /TPrA	193,306
T4, thyroxine	Ru(bpy) ₃ ²⁺ /TPrA	295,309,311,313
T3, triiodothyronine	Ru(bpy) ₃ ²⁺ /TPrA	295,309,311
TXB2, Thromboxane	Ru(bpy) ₃ ²⁺ /TPrA	583
Thyroid stimulating hormone	Ru(bpy) ₃ ²⁺ /TPrA	295,309,311
Thyroid stimulating hormone	Terbium chelate	312
C-telopeptides	Ru(bpy) ₃ ²⁺ /TPrA	323
Thiazide compounds	Ru(bpy) ₃ ²⁺	558
Thyrotrophin	Ru(bpy) ₃ ²⁺	293
Trialkylamines	Ru(bpy) ₃ ²⁺	257
Tri- <i>n</i> -propylamine (TPrA)	Ru(bpy) ₃ ²⁺	27
Troponin	Ru(bpy) ₃ ²⁺ /TPrA	295,314
L-tryptophan	Ru(bpy) ₃ ²⁺	592
Tumor necrosis factor - α	Ru(bpy) ₃ ²⁺ /TPrA	593
E2 and E3 Ubiquitin Ligases	Ru(bpy) ₃ ²⁺ /TPrA	289,289,594

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Urate	Luminol/H ₂ O ₂	565
Valine	Ru(bpy) ₃ ²⁺	558,595
Varicella-Zoster virus DNA	Ru(bpy) ₃ ²⁺ /TPrA	357
West Nile Virus RNA	Ru(bpy) ₃ ²⁺ /TPrA	358
2-Whiouracil	Ru(bpy) ₃ ²⁺	596
YFP-GL-GPI	Ru(bpy) ₃ ²⁺ /TPrA	291

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