Supplementary Material (ESI) for Annual Reports C

Table S1. Spectroscopic and ECL properties of ruthenium systems.

Complex/Reactant	Reaction Conditions	λ_{em} (nm)	λ_{ecl} (nm)	ϕ_{em}	ϕ_{ecl}	Ref
$Ru(bpy)_3^{2+}$	MeCN	608	608	0.062	0.05	25,41,50
$Ru(bpy)_3^{2+}/C_2O_4^{2-}$	H_2O (0.1 M H_2SO_4)	610	610	-----	0.02	51
$Ru(bpy)_3^{2+}/ C_2O_4^{2-}$	H_2O(0.1MNaCl&0.1MKH_2PO_4)	----	591	0.062	0.0011	113
$Ru(bpy)_3^{2+}/S_2O_8^{2-}$	MeCN:H_2O (50:50 v/v)	625	625	-----	0.025	51,52
$Ru(bpy)_3^{2+}$/TPrA	H_2O (0.2 M KH_2PO_4)	610	610	-----	1.0	27,[h]
$Ru(bpy)_3^{2+}$/TPrA	0.15 M phosphate buffer; 0.2 – 1 mM halide (Br^-, Cl^-, I^-)					63
$Ru(dmbp)_3^{2+}/ C_2O_4^{2-}$	H_2O(0.1MNaCl&0.1MKH_2PO_4)	----	594	0.045	$5x10^{-3}$	113
$Ru(phen)_3^{2+}$	MeCN	590	590	------	------	3
$Ru(phen)_3^{2+}/ C_2O_4^{2-}$	H_2O(0.1MNaCl&0.1MKH_2PO_4)	----	585	0.065	0.0015	113
$Ru(terpy)_3^{2+}$	MeCN	------	660	------	------	3
$Ru(TPTZ)_3^{2+}$	MeCN	------	------	------	------	3
$Ru(bpz)_3^{2+}$	MeCN	585	585	~0.03	~0.04	419,420
$Ru(bpz)_3^{2+}/ S_2O_8^{2-}$	H_2O (0.1M Na_2SO_4)	585	590	-----	-----	421
$Ru(dp\text{-}bpy)_3^{2+}$	MeCN	635	635	0.26	0.14	53
$Ru(dp\text{-}phen)_3^{2+}$	MeCN	615	615	0.31	0.24	53
$Ru(dp\text{-}bpy)_3^{2+}$/TPrA	H_2O (0.2M phosphate buffer)					53
$Ru(dp\text{-}phen)_3^{2+}$/TPrA	H_2O (0.2M phosphate buffer)					53
$Ru(dmphen)_3^{2+}/ C_2O_4^{2-}$	H_2O(0.1MNaCl&0.1MKH_2PO_4)	----	591	-----	------	113
$(bpy)_2Ru(bphb)^{2+}$	MeCN	624	624	0.08	0.0066	121
$(bpy)_2Ru(bphb)^{2+}$/T	MeCN (0.1M $TBAPF_6$)	624	624	0.08	1.5	121

PrA						
$(bpy)_2Ru(bphb)^{2+}$/TPrA	MeCN:H_2O (50:50 v/v; 0.1M $TBAPF_6$)	-------	------	-------	1.6	121
$(bpy)_2Ru(bphb)^{2+}$/TPrA	H_2O (0.2 M KH_2PO_4)	-------	------	-------	0.058	121
$(bpy)_2Ru(bphb)^{2+}$/$S_2O_8^{2-}$	MeCN	624	624	0.08	0.4	121,[c]
$(bpy)_2Ru(bphb)^{2+}$/$S_2O_8^{2-}$	MeCN:H_2O (50:50 v/v)	-------	------	-------	0.7	121,[c]
$[(bpy)_2Ru]_2(bphb)^{4+}$	MeCN	624	624	0.11	0.16	121
$[(bpy)_2Ru]_2(bphb)^{4+}$ / TPrA	MeCN	624	624	0.11	2.6	121,[c]
$[(bpy)_2Ru]_2(bphb)^{4+}$ / TPrA	MeCN:H_2O (50:50 v/v)	-------	------	-------	2.8	121,[c]
$[(bpy)_2Ru]_2(bphb)^{4+}$ / TPrA	H_2O (0.2 M KH_2PO_4)	-------	------	-------	2.0	121,[c]
$[(bpy)_2Ru]_2(bphb)^{4+}$ / $S_2O_8^{2-}$	MeCN	624	624	0.11	0.6	121,[c]
$[(bpy)_2Ru]_2(bphb)^{4+}$ / $S_2O_8^{2-}$	MeCN:H_2O (50:50 v/v)	------	------	-------	0.8	121,[c]
$(bpy)_2Ru(AZA\text{-}bpy)^{2+}$/ TPrA	MeCN:H_2O (0.1M KH_2PO_4)	603	603	0.062	0.84	111
$(bpy)_2Ru(AZA\text{-}bpy)^{2+}$/ TPrA	H_2O (0.2M KH_2PO_4)	613	613	0.062	0.51	111
$(bpy)_2Ru(CE\text{-}bpy)^{2+}$/ TPrA	H_2O (0.1M Tris)	------	650	-----	1.0	110,[i]
$(bpy)_2Ru(CE\text{-}bpy)^{2+}$/ TPrA	MeCN (0.1M $TBAClO_4$)	------	655	-----	~0.5	110,[j]
$(bpy)_2Ru(bpy\text{-}C_{19})^{2+}$/ $C_2O_4^{2-}$	H_2O(0.5M Na_2SO_4)	600	680	-----	------	422
$(bpy)_2Ru(bpy\text{-}O\text{-}C_8)^{2+}$	MeCN(0.1M $TBAPF_6$)	618	618	0.75	1.0	122,[k]
Den-8-Ru	MeCN (0.1M $TBAPF_6$)	618	618	0.75	~5	122,[l]
$Ru(v\text{-}bpy)_3^{2+}$	MeCN (0.1 M $TBAClO_4$)	~630	~650	------	------	423
$(bpy)_2Ru(DC\text{-}bpy)^{2+}$	H_2O (0.1M KH_2PO_4)	629	629	0.030	0.73	424
$(bpy)_2Ru(DC\text{-}bpy)^{2+}$	MeCN:H_2O (50:50 v/v)	624	624	0.025	0.60	424
$(bpy)_2Ru(DM\text{-}bpy)^{2+}$	H_2O (0.1M KH_2PO_4)	605	605	0.020	0.84	424
$(bpy)_2Ru(DM\text{-}bpy)^{2+}$	MeCN:H_2O (50:50 v/v)	606	606	0.024	0.95	424
$[Ru(BTB)Ru]^{2+}$	MeCN ($TBAPF_6$)	~680	710		0.02	125
$[Ru(4\text{-}TBN)Ru]^{3+}$	MeCN ($TBAPF_6$)	~680	680		0.075	125
$[H_2MPy3,4DMPP)Ru(bpy)_2Cl(PF_6)$/TPrA	MeCN	655	656	0.04	0.14	120
$(bpy)_2Ru(DiPA)^{+}$/TPrA	0.2M potassium phosphate buffer	~600	640			119

1/TprA (Figure E)	0.18M KPB/Triton X-100	607		0.125	1.0	114,[O]
2/TprA (Figure E)	0.18M KPB/Triton X-100	632		0.112	0.029	114,[O]
3/TprA (Figure E)	0.18M KPB/Triton X-100	622		0.150	0.091	114,[O]
4/TprA (Figure E)	0.18M KPB/Triton X-100	627		0.109	1.22	114,[O]
5/TprA (Figure E)	0.18M KPB/Triton X-100	624		0.135	1.24	114,[O]
6/TprA (Figure E)	0.18M KPB/Triton X-100	619		0.109	0.089	114,[O]
7/TprA (Figure E)	0.18M KPB/Triton X-100	637, 660		0.092	0.56	114,[O]
$Ru(bpy)_3^{2+}$/TPrA	Immobilized in an organosilicate thin film. 0.05 M KPB				100	101
$Ru(bpy)_3^{2+}$/Tartaric Acid	Immobilized in an organosilicate thin film. 0.05 M KPB				8.21	101
$Ru(bpy)_3^{2+}$/Ascorbic acid,	Immobilized in an organosilicate thin film. 0.05 M KPB				4.22	101
$Ru(bpy)_3^{2+}$/NADH	Immobilized in an organosilicate thin film. 0.05 M KPB				3.90	101
$Ru(bpy)_3^{2+}$/L-Tryptophan	Immobilized in an organosilicate thin film. 0.05 M KPB				2.39	101
$Ru(bpy)_3^{2+}$/ Promazine	Immobilized in an organosilicate thin film. 0.05 M KPB				5.01	101
$Ru(bpy)_3^{2+}$/ Oxalate	Immobilized in an organosilicate thin film. 0.05 M KPB				10.7	101
$Ru(bpy)_3^{2+}$/ Quinacrine	Immobilized in an organosilicate thin film. 0.05 M KPB				1.57	101
$Ru(bpy)_3^{2+}$/ L-Proline	Immobilized in an organosilicate thin film. 0.05 M KPB				12.0	101
$Ru(bpy)_3^{2+}$/TPrA	Monolayer on benzene sulfonic acid modified glassy carbon electrode.					425
$Ru(bpy)_3^{2+}$/TPrA	Poly(sodium 4-styrene sulfonate) thin-films.					426
$Ru(bpy)_3^{2+}$/TPrA	Immobilized in Eastman-AQ55D-silica composite film. 0.1M KPB					427
$Ru(bpy)_3^{2+}$/oxalate	Immobilized in Eastman-AQ55D-silica composite film. 0.1M KPB					427
$Ru(bpy)_3^{2+}$/chlorpro	Immobilized in Eastman-					427

mazine	AQ55D-silica composite film. 0.1M KPB					
$Ru(bpy)_3^{2+}$	Adsorbed on a highly oxidized glassy carbon electrode.					428
$Ru(bpy)_3^{2+}$	$Ru(bpy)_3^{2+}$ immobilized in Nafion coated on a graphite electrode. ECL was generated in aqueous solution upon electrochemical oxidation of water.					429
$Ru(bpy)_3^{2+}$	$Ru(bpy)_3^{2+}$ doped silica nanoparticles coimmobilized with carbon nanotubes.					95
$Ru(bpy)_3^{2+}$ /erythromycin	Sol–gel titania–Nafion composite film placed in human urine.					430
$Ru(bpy)_3^{2+}$/TPrA	Sol–gel titania–Nafion composite film. 0.05 M phosphate buffer solution at pH 7					430
$Ru(bpy)_3^{2+}$/oxalate	Sol–gel titania–Nafion composite film. 0.05 M phosphate buffer solution at pH 7					430
$Ru(bpy)_3^{2+}$/TPrA	Encapsulated in sol–gel glass for solid-state ECL cell.	610	610			92
$Ru(bpy)_3^{2+}$/TPrA	Nafion–silica composite films using potassium phosphate (pH 6, 7, 8) or potassium acetate (pH 4, 5, 6) buffers.					94
$Ru(bpy)_3^{2+}$/oxalate	Nafion–silica composite films using potassium phosphate (pH 6, 7, 8) or potassium acetate (pH 4, 5, 6) buffers.					94
$Ru(bpy)_3^{2+}$/TPrA	Encapsulated in sol–gel glass in pH 6 phosphate buffer.					93
$Ru(bpy)_3^{2+}$/Tributyl amine	Encapsulated in sol–gel glass in pH 6 phosphate buffer.					93
$Ru(bpy)_3^{2+}$/Triethyl amine	Encapsulated in sol–gel glass in pH 6 phosphate buffer.					93
$Ru(bpy)_3^{2+}$/Trimeth ylamine	Encapsulated in sol–gel glass in pH 6 phosphate buffer.					93
$Ru(bpy)_3^{2+}$/oxalate	Encapsulated in sol–gel glass in pH 6 phosphate buffer.					93
$Ru(bpy)_3^{2+}$/TPrA	Microring optical fibre array ring electrode in a pH 7 phosphate buffer solution					431

$Ru(bpy)_3^{2+}$/TPrA	Carbon nanotubes incorporated in Nafion film at a glassy carbon electrode in 0.1 M phosphate buffer solution (pH 7.5).				60	432,[q]
$Ru(bpy)_3^{2+}$/TPrA	Clay nanoparticle/$Ru(bpy)_3^{2+}$ films on ITO electrodes in phosphate buffer solution (pH 7.5).					433
$Ru(bpy)_3^{2+}$/oxalate	Clay nanoparticle/$Ru(bpy)_3^{2+}$ films on ITO electrodes in phosphate buffer solution (pH 7.5).					432
$Ru(bpy)_3^{2+}$/TPrA	SiO_2 nanoparticles/$Ru(bpy)_3^{2+}$ multilayer films. 1.3 μmol/L TPA in phosphate buffer (pH 8.2).					434
$Ru(bpy)_3^{2+}$/oxalate	$Ru(bpy)_3^{2+}$ embedded in silica-glass thin films.					435
$Ru(bpy)_3^{2+}$/oxalate	Immobilized in SiO_2 sol–gel polymer composites with 50 mM $Na_2C_2O_4$ in H_2O at pH = 6.0					436
$Ru(bpy)_3^{2+}$	Immobilized in SiO_2 sol–gel polymer composites with 0.1 M $[N(n\text{-}C_4H_9)_4]PF_6$ in MeCN.				0.016-0.0012	436,[r]
$Ru(bpy)_3^{2+}$/TPrA	Platinum silicide electrodes with $Ru(bpy)_3^{2+}$ covalently bonded either directly or via single stranded DNA.					437
$Ru(bpy)_3^{2+}$/TPrA	Humic acid–silica–poly(vinyl alcohol) sol-gel composite films on glassy carbon electrodes.					438
$Ru(bpy)_3^{2+}$/oxalate	Humic acid–silica–poly(vinyl alcohol) sol-gel composite films on glassy carbon electrodes.					438
$Ru(bpy)_3^{2+}$/oxalic acid	$Ru(bpy)_3^{2+}$- Chitosan coated on a platinum electrode.					439
$Ru(bpy)_3^{2+}$/trimethylamine	$Ru(bpy)_3^{2+}$- Chitosan coated on a platinum electrode.					439
$Ru(bpy)_3^{2+}$/NADH	Detection of ethanol by immobilizing $Ru(bpy)_3^{2+}$ and alcohol dehydrogenase in a sol–gel hybrid film.					440
$Ru(bpy)_3^{2+}$/TPrA	Immobilized in poly(*p*-				4300	441,[s]

	styrenesulfonate) (PSS) silica Triton X-100 composite films in 0.1 M phosphate buffer (pH 7.0).					
$Ru(bpy)_3^{2+}$/oxalate	Immobilized in poly(*p*-styrenesulfonate) (PSS) silica Triton X-100 composite films in 0.1 M phosphate buffer (pH 7.0).				350	441,[s]
$Ru(bpy)_3^{2+}$/NADH	Immobilized in poly(*p*-styrenesulfonate) (PSS) silica Triton X-100 composite films in 0.1 M phosphate buffer (pH 7.0).				76	441,[s]
$Ru(bpy)_3^{2+}$/Histidine	Immobilized in poly(*p*-styrenesulfonate) (PSS) silica Triton X-100 composite films in 0.1 M phosphate buffer (pH 7.0).				17	441,[s]
$Ru(bpy)_3^{2+}$/Threonine	Immobilized in poly(*p*-styrenesulfonate) (PSS) silica Triton X-100 composite films in 0.1 M phosphate buffer (pH 7.0).				2	441,[s]
$Ru(bpy)_3^{2+}$/Asparagine	Immobilized in poly(*p*-styrenesulfonate) (PSS) silica Triton X-100 composite films in 0.1 M phosphate buffer (pH 7.0).				5	441,[s]
$Ru(bpy)_3^{2+}$/Arginine	Immobilized in poly(*p*-styrenesulfonate) (PSS) silica Triton X-100 composite films in 0.1 M phosphate buffer (pH 7.0).				44	441,[s]
$Ru(bpy)_3^{2+}$/Tyrosine	Immobilized in poly(*p*-styrenesulfonate) (PSS) silica Triton X-100 composite films in 0.1 M phosphate buffer (pH 7.0).				7	441,[s]
$Ru(bpy)_3^{2+}$/Phenylalinine	Immobilized in poly(*p*-styrenesulfonate) (PSS) silica Triton X-100 composite films in 0.1 M phosphate buffer (pH 7.0).				9	441,[s]
$Ru(bpy)_3^{2+}$/Lactamine	Immobilized in poly(*p*-styrenesulfonate) (PSS) silica Triton X-100 composite films				16	441,[s]

	in 0.1 M phosphate buffer (pH 7.0).					
$Ru(bpy)_3^{2+}$/Proline	Immobilized in poly(*p*-styrenesulfonate) (PSS) silica Triton X-100 composite films in 0.1 M phosphate buffer (pH 7.0).				784	441,[s]
$Ru(bpy)_3^{2+}$/TPrA	PtNPs/AQ/$Ru(bpy)_3^{2+}$ colloidal material in aqueous buffered solution.					98
$Ru(bpy)_3^{2+}$/TPrA	PtNPs/$Ru(bpy)_3^{2+}$ thin films on gold electrode.					99
$[Ru(bpy)_2(PVP)_{10}]^{2+}$ /TPrA	Solution phase ECL in DMF, 0.1M TPrA.			0.9	0.019	90,[t]
$[Ru(bpy)_2(PVP)_{10}]^{2+}$ /$S_2O_8^{2-}$	Solution phase ECL in 80:20 DMF:H_2O, 0.1M $Na_2S_2O_8$.			0.9	0.040	90,[t]
$[Ru(bpy)_2(PVP)_{10}]^{2+}$ /oxalate	Redox polymer immobilized on surface of glassy carbon working electrode. 5 mM oxalate/0.1M H_2SO_4				0.152	90,[t]
$Ru(bpy)_3^{2+}$/TPrA	Electrostatic interaction between $Ru(bpy)_3^{2+}$ -gold nanoparticle aggregates, and then immobilization of the aggregates on a sulfydryl-derivatized ITO electrode. 0.5M TPrA in 50 mM KPB.					91
$Ru(bpy)_3^{2+}$/berberine	Immobilized in organically modified silicate films on glassy carbon electrode. Alkaline buffer solution at pH 9.5.		610			130
$Ru(bpy)_3^{2+}$/trigonelline	Immobilized in organically modified silicate films on glassy carbon electrode. Alkaline buffer solution at pH 9.5.		610			130
$Ru(bpy)_3^{2+}$/allantoin	Immobilized in organically modified silicate films on glassy carbon electrode. Alkaline buffer solution at pH 9.5.		610			130
$Ru(bpy)_3^{2+}$/bentaine	Immobilized in organically modified silicate films on glassy carbon electrode. Alkaline buffer solution at pH 9.5.		610			130

$Ru(bpy)_3^{2+}$/pirimicarb	$Ru(bpy)_3^{2+}$ adsorbed on multi-walled carbon nanotube/nafion film-modified electrode.					129
$Ru(bpy)_3^{2+}$/methomyl	$Ru(bpy)_3^{2+}$ adsorbed on multi-walled carbon nanotube/nafion film-modified electrode.					129
$Ru(bpy)_3^{2+}$/aldicarb	$Ru(bpy)_3^{2+}$ adsorbed on multi-walled carbon nanotube/nafion film-modified electrode.					129
$Ru(bpy)_3^{2+}$/carbofuran	$Ru(bpy)_3^{2+}$ adsorbed on multi-walled carbon nanotube/nafion film-modified electrode.					129
$Ru(bpy)_3^{2+}$/NADH	$Ru(bpy)_3^{2+}$ and alcohol dehydrogenase immobilized in sol-gel/chitosan/poly(sodium 4-styrene sulfonate) on glassy carbon electrode. 0.1 M phosphate buffer.					96
RuTPh	MeCN/0.1M $TBAPF_6$	690	740	7.2[l]	15[l]	442
Ru(4TPZ)	MeCN/0.1M $TBAPF_6$	690	690	7.4[l]	75[l]	442
Ru(4TBN)	MeCN/0.1M $TBAPF_6$	670, 700	730	5.7[l]	15[l]	442
Ru(4TBN)Me	MeCN/0.1M $TBAPF_6$	660	720	11.6[l]	45[l]	442
Ru(4TBN)Ru	MeCN/0.1M $TBAPF_6$	670, 700	690	15.3[l]	120[l]	442
Ru(BTB)Ru	MeCN/0.1M $TBAPF_6$	690	700	9.0[l]	45[l]	442
$(Et_4N)[Ru(tpyA_{18}C_6)(CN)_3]$ ($tpyA_{18}C_6$ = N-[4'-(2,2':6',2"-terpyridyl)]-1,4,7,10,13-pentaoxa-16-azacyclohexadodecane)	acetone	765				134
$(Et_4N)[Ru(tpyA_{18}C_6)(CN)_3]$ ($tpyA_{18}C_6$ = N-[4'-(2,2':6',2"-terpyridyl)]-1,4,7,10,13-pentaoxa-16-azacyclohexadodecane)	Pyridine	760				134
$(Et_4N)[Ru(tpyA_{18}C_6)(CN)_3]$ ($tpyA_{18}C_6$ = N-[4'-(2,2':6',2"-terpyridyl)]-1,4,7,10,13-	DMF	755				134

pentaoxa-16-azacyclohexadodecane)						
$(Et_4N)[Ru(tpyA_{18}C_6)(CN)_3]$ ($tpyA_{18}C_6$ = N-[4'-(2,2':6',2"-terpyridyl)]-1,4,7,10,13-pentaoxa-16-azacyclohexadodecane)	MeCN	740				134
$(Et_4N)[Ru(tpyA_{18}C_6)(CN)_3]$ ($tpyA_{18}C_6$ = N-[4'-(2,2':6',2"-terpyridyl)]-1,4,7,10,13-pentaoxa-16-azacyclohexadodecane)	CH_2Cl_2	730				134
$(Et_4N)[Ru(tpyA_{18}C_6)(CN)_3]$ ($tpyA_{18}C_6$ = N-[4'-(2,2':6',2"-terpyridyl)]-1,4,7,10,13-pentaoxa-16-azacyclohexadodecane)	Propanol	685				134
$(Et_4N)[Ru(tpyA_{18}C_6)(CN)_3]$ ($tpyA_{18}C_6$ = N-[4'-(2,2':6',2"-terpyridyl)]-1,4,7,10,13-pentaoxa-16-azacyclohexadodecane)	EtOH	675				134
$(Et_4N)[Ru(tpyA_{18}C_6)(CN)_3]$ ($tpyA_{18}C_6$ = N-[4'-(2,2':6',2"-terpyridyl)]-1,4,7,10,13-pentaoxa-16-azacyclohexadodecane)	MeOH	645				134

Notes: Ligand abbreviations are listed at the end of the article in section 6. Coreactants are listed after the backslash (e.g., $Ru(bpy)_3^{2+}$/TPrA where TPrA is the coreactant). If no coreactant is listed then ECL was generated via annihilation. In certain instances annihilation ECL was generated using cross-reactions between two different species (e.g., equations 17 - 20). In those cases the cross-reactant is listed after the backslash and the reaction identified with (Cross-R). The spectrostopic and ECL data listed was either reported directly in the cited paper, or was extrapolated from data. In those instances where no ECL spectra and/or efficiencies were reported only the compound, conditions and reference are listed. Photoluminescence efficiencies (ϕ_{em}) and ECL efficiencies (ϕ_{em}) are relative to $Ru(bpy)_3^{2+}$ at 0.062 and 0.05, respectively, unless otherwise noted. a) Volts vs Fc/Fc^+ (0.631 V vs NHE). b) Relative to diphenylanthracene (ϕ_{ecl} = 6.3%). c) Relative ECL efficiency with respect to $Ru(bpy)_3^{2+}$/Coreactant (ϕ_{ecl} = 1). d) weak ECL such that no spectrum was obtained. e) ECL generated via cross-reaction between $Mo_6Cl_{14}^-$ and electroactive donor species (D^-; nitroaromatic radical anions). f) ECL generated via cross reaction between $Mo_6Cl_{14}^{3-}$ and electroactive acceptor species (A^+; aromatic amine radical cations). g) relative to $Cr(bpy)_3(ClO_4)_2$. h) assigned a value of 1.0 for comparison purposes. i) set to 1.0 for comparison to CE-bpy in MeCN. Relative ϕ_{ecl} vs $Ru(bpy)_3^{2+}$/TPrA not reported. j) relative to CE-bpy in H_2O (ϕ_{ecl} = 1). k) Set to 1.0 for comparison with Den-8-Ru. l) relative to $(bpy)_2Ru(bpy\text{-}O\text{-}C_8)^{2+}$ at 1.0. l) $[SiPc(OR)_2]$ = bis(tri-*n*-hexylsiloxy)(2,3-phthalocyaninato)silicon; $RO(SiPcO)_2R$ = dimer of $[SiPc(OR)_2]$; $[SiNc(OR)_2]$ = bis(tri-*n*-hexylsiloxy)(2,3-naphthalocyaninato)silicon. l) Relative to $Ru(bpy)_3^{2+}$ at 100%. m) For Boron complexes, ϕ_{em} relative to PM 567 as a standard (0.87 in MeCN). n) relative to fluorescine 27 in 0.1 N NaOH (0.90 ± 0.03). O) ϕ_{em} relative to $Ru(bpy)_3^{2+}$ in MeCN (0.067). p) ϕ_{ecl} relative to $Ru(bpy)_3^{2+}$ /TPrA as 100%. q) ϕ_{ecl} relative to $Ru(bpy)_3^{2+}$ /TPrA (ϕ_{ecl} = 1) adsorbed in a Nafion Coated glassy carbon electrode. r) ITO/$[Ru(bpy)_3]^{2+}$ (MeCN, 0.1 M in TBAH) as a standard, with ϕ_{ecl} = 0.05. s) ECL Intensity (arbitrary Units). t) ϕ_{em} relative to $Ru(bpy)_3^{2+}$ at 0.062. ϕ_{ecl} relative to $Ru(bpy)_3^{2+}$ / TPrA as 5.0%.