Electronic Supplementary Information for:

Analytically useful blue chemiluminescence from a water-soluble iridium(III) complex containing a tetraethylene glycol functionalised triazolylpyridine ligand

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Figure S1. Photoluminescence emission spectrum of [Ir(df-ppy)$_2$(STP)] (blue line) and [Ir(df-ppy)$_2$(BPS)]$^-$ (green line), in aqueous solution at a concentration of 10 μM.
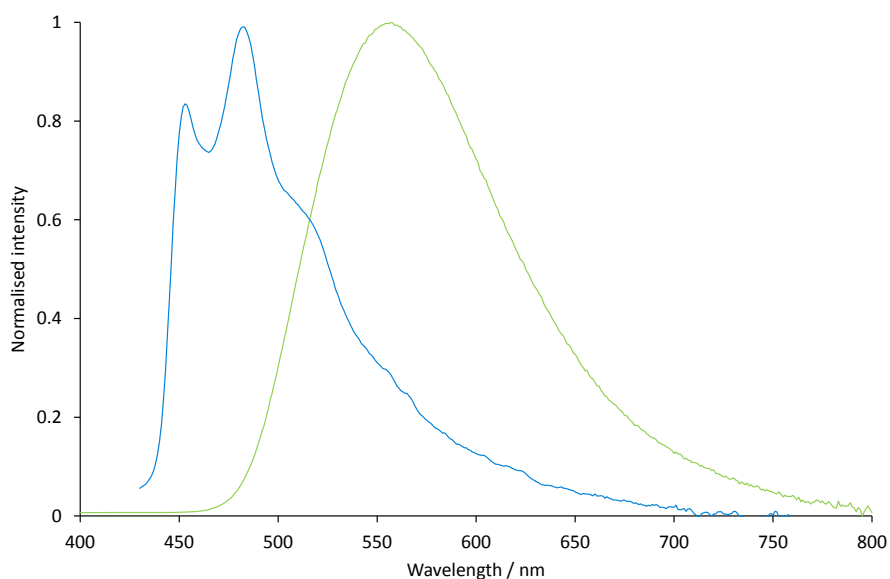

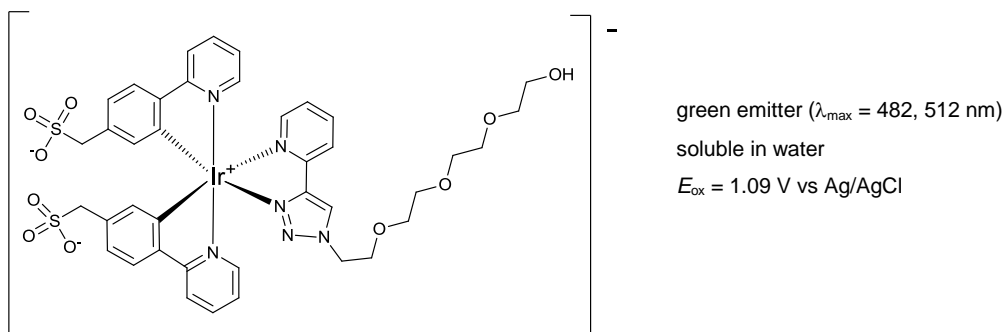**Figure S2**. Chemical structure and selected properties of [Ir(ppy-SO$_3$)$_2$(pt-TEG)]$^-$.

green emitter (λ_{max} = 482, 512 nm)
soluble in water
E_{ox} = 1.09 V vs Ag/AgCl

Figure S3. Photoluminescence of [Ir(df-ppy)$_2$(pt-TEG)]$^+$ (left), [Ir(ppy-SO$_3$)$_2$(pt-TEG)]$^-$ (middle), and [Ru(bpy)$_3$]$^{2+}$ (right) at 1 mM in aqueous solution under ultraviolet light (LED: λ_{max} = 370 nm).

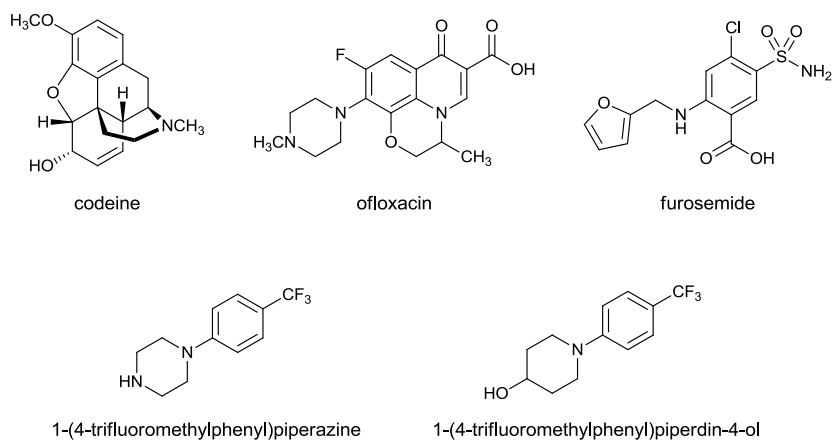**Figure S4**. Compounds selected for the comparison of the chemiluminescence intensities.

codeine   ofloxacin   furosemide

1-(4-trifluoromethylphenyl)piperazine   1-(4-trifluoromethylphenyl)piperdin-4-ol

Figure S5. Relative chemiluminescence (signal-to-blank) response for $[Ru(bpy)_3]^{2+}$ and $[Ir(df\text{-}ppy)_2(pt\text{-}TEG)]^+$ at 1 mM reagent concentration, with cerium(IV) sulfate (1 mM) and various pharmaceuticals and related compounds (10 μM), using flow injection analysis methodology.
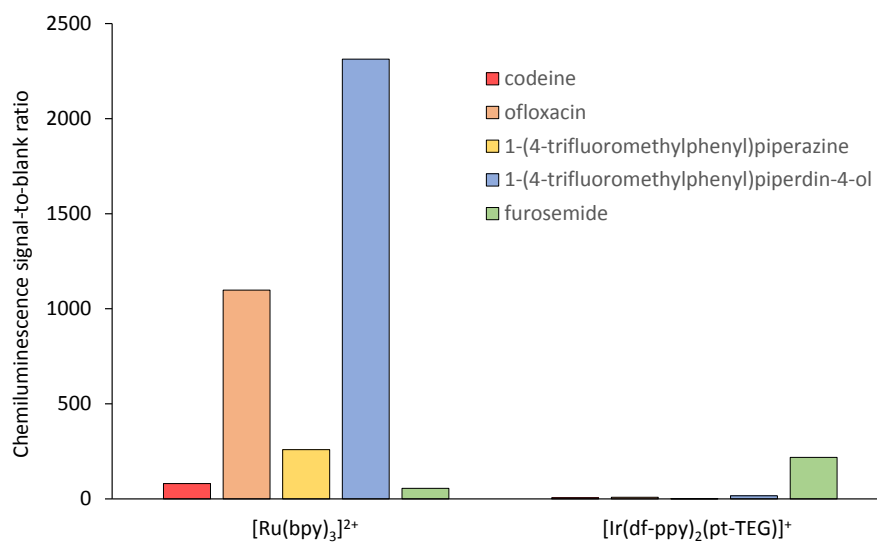
Figure S6. Chemiluminescence responses (signal/blank ratios) of various loop diuretics and related compounds: (1) furosemide, (2) 4-chloro-3-sulfamoyl-benzoic acid, (3) *N*-benzyl-4-chloro-sulfamoylanthranillic acid, (4) piretanide, (5) bumetanide, at 1 µM, with $[Ru(bpy)_3]^{2+}$ (red columns) and $[Ir(df-ppy)_2(pt-TEG)]^+$ (blue columns), using flow injection analysis methodology. Reagent concentration: 0.1 mM. Oxidant: 1 mM cerium(IV) sulfate in 0.05 M H_2SO_4.
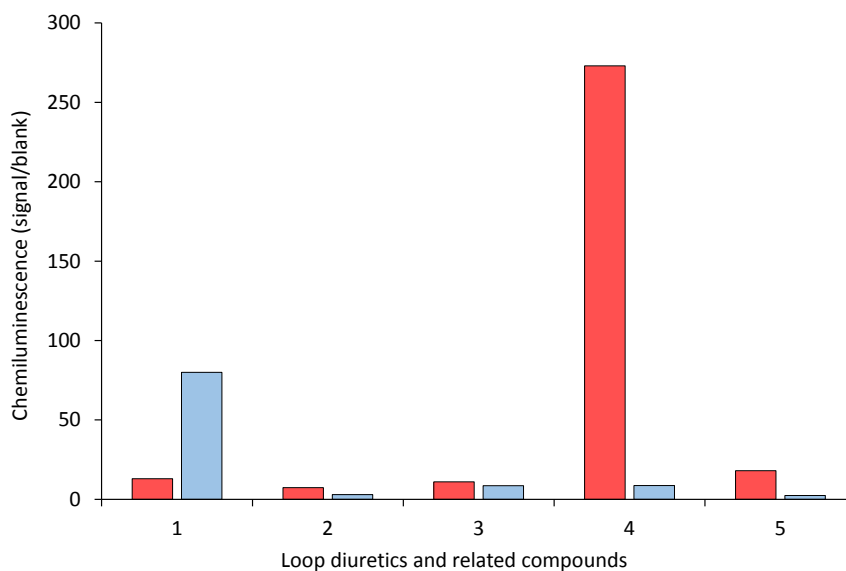

Figure S7. Calibrations for furosemide prepared using flow injection analysis methodology with 0.1 mM $[Ir(df-ppy)_2(pt-TEG)]^+$ (blue plot) or $[Ru(bpy)_3]^{2+}$ (red plot) and 1 mM cerium(IV) sulfate in 0.05 mM H_2SO_4. Each point is an average of three replicate injections. The precision was evaluated using a 3×10^{-7} M furosemide solution (n = 5), which showed a relative standard deviation of less than 2% with both reagents. The limits of detection (1×10^{-8} M and 7×10^{-8} M, respectively) were established using a smaller range calibration at low concentrations.