Figure 1. The ESI-mass spectrum of [Pd(η₃-C₃H₅)(1)]⁺, 2 in methanol.

Figure 2. The ESI-mass spectrum of [Ru(bpy)₂(1)]²⁺, 3a in acetonitrile.

Figure 3. The ESI-mass spectrum of [Ru(d₈-bpy)₂(1)]²⁺, 3b in acetonitrile.
Figure 4. The ESI-mass spectrum of \([\text{Ru(bpy)}_2(4)]^{2+}\), 5 in acetonitrile after (a) 0 and (b) 200 seconds of irradiation (125-W Mercury lamp). Peak assignments: \(588.2 = 5, [\text{M-2PF}_6]^{2+}\); \(608.7 = [\text{Ru(bpy)}_2(4)(\text{CH}_3\text{CN})]^{2+}, [\text{M-2PF}_6]^{2+}\); \(248.0 = [\text{Ru(bpy)}_2(\text{CH}_3\text{CN})]^{2+}, [\text{M-2PF}_6]^{2+}\). (The envelope in both spectra at \(m/z=490\) is assigned to the unreacted starting material \([\text{Ru(bpy)}_2\text{Cl}_2]\))

Figure 5. The \(^1\text{H NMR spectra of }[\text{Pd(\eta}^3-\text{C}_5\text{H}_5)(1)]\text{PF}_6, 2 (\text{CDCl}_3, 40^\circ\text{C}, 400 \text{MHz}).
Figure 6. The aromatic region of the $^1$H NMR spectrum of $2$ at 21°C and 40°C (CDCl$_3$, 400 MHz).

Figure 7. The aromatic region of the $^1$H-$^1$H TOCSY NMR spectra of $[\text{Ru(bpy)}_2(\text{I})]^2+$, $3a$ (CD$_3$CN, 23 K, 400 MHz).
Figure 8. The Cyclic voltammogram of 1 in chloroform. Supporting electrolyte: Bu$_4$NPF$_6$ (0.1 M); glassy carbon working electrode, Pt wire auxiliary electrode, SCE reference electrode.