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Table S1. Electrochemical Data for $\{[(bpy)_2Ru(bpm)]_2MCl_2\}^{5+}$ where $M = Rh^{III}$ or Ir^{III} , bpy = 2,2'-bipyridine and bpm = 2,2'-bipyrimidine in 0.1 M Bu_4NPF_6 in CH_3CN^a

Compound	E _{1/2} (V)	Assignment
{[(bpy) ₂ Ru(bpm)] ₂ RhCl ₂ } ⁵⁺	+1.70	2Ru ^{II} /2Ru ^{III}
	-0.13	bpm,bpm/bpm ⁻ ,bpm
	-0.26	bpm ⁻ ,bpm/bpm ⁻ ,bpm ⁻
	$-0.78 (E_p^a)$. Rh ^{III} /Rh ^I
	-1.19	2Ru(bpy) ₂ /2Ru(bpy)(bpy) ^b
	-1.45	2Ru(bpy ⁻)(bpy)/2Ru(bpy ⁻) ₂ ^b
{[(bpy) ₂ Ru(bpm)] ₂ IrCl ₂ } ⁵⁺	+1.70	2Ru ^Ⅱ /2Ru ^Ⅲ
	-0.08	bpm,bpm/bpm ⁻ ,bpm
	-0.21	bpm ⁻ ,bpm/bpm ⁻ ,bpm ⁻
	-0.90	bpm ⁻ ,bpm ⁻ /bpm ²⁻ ,bpm ⁻
	-1.07	bpm²-,bpm¹/bpm²-,bpm²-
	-1.60	2Ru(bpy) ₂ /2Ru(bpy ⁻)(bpy) ^b
	-1.70	Ir ^{III} /Ir ^{Ib}
	-1.75	2Ru(bpy ⁻)(bpy)/2Ru(bpy ⁻) ₂ ^b

^a Potentials reported vs. Ag/AgCl (0.29 V vs. NHE) at a scan rate of 200 mV/s.

^b Resolution of these waves is difficult and reduction in this potential region leads to adsorption onto the electrode surface.

Figure S1. Electronic Absorption Spectra for $\{[(bpy)_2Ru(bpm)]_2MCl_2\}^{5+}$ in acetonitrile at room temperature where $M = Rh^{III}$ (——) or Ir^{III} (——), bpy = 2,2'-bipyridine and bpm = 2,2'-bipyrimidine.

