suggested by the prominence of cis products in eq 1. If the one-electron model is an accurate representation of the relative energies of the excited-state fragments, the results in eq 1 can still be explained by the stereochemical rearrangement model. If we arbitrarily set the rate constants pertaining to rearrangement as $k_{ba} = 8k_{ab}$, then the relative rate constants $k_{ab} = 3.5k_{na}$, $k_{ba} = 28k_{na}$, and $k_{nb} = 34k_{na}$ mimic the experimental values in eq 1. However, these results require that deactivation of $SP_{basal}*$ be much more rapid than deactivation of $SP_{axial}*$.

The fact that the series of M(III) systems d^5 Ru(III),[9] d^6 Rh(III),[3-7] and d^6 Ir(III)[10] show varying degrees of excited-state rearrangement when the $[M(en)_2Cl^{2+}]*$ fragment is formed is not surprising. The ability to traverse the barrier in both directions ($SP_{apical}* \leftrightarrow SP_{basal}*$) for Ru(III), in only one direction for Rh(III) ($SP_{basal}* \rightarrow SP_{apical}*$), and only a small amount in one direction ($SP_{basal}* \rightarrow$ some $SP_{apical}*$) for Ir(III) can be linked to both the absolute magnitude of $e_{\sigma}{}^{i}$ values (Ir(III) > Rh(III) > Ru(III)) and the spin–orbit coupling constant (Ir(III) > Rh(III) $\simeq$ Ru(II)) which should make k_{na} and k_{nb} larger for the third-row Ir(III).

The current experimental data on d^6 system[12] of Rh(III)[3-7] and Ir(III)[10] are consistent with the stereochemical rearrangement model[1,2] and demonstrate the fine balance between the dynamic processes leading to rearrangement and deactivation. Of greater importance is the observation that differing cis/trans product ratios from photodissociation of Y from *cis*- and *trans*-$[MA_4XY]$ *does not* preclude the presence of a common set of five-coordinate intermediates. Lastly, initial data on the d^5 Ru(III) systems[9] is compatible with the stereochemical model, although much more experimental work is needed to reinforce this point. However, the fact that the Vanquickenborne/Ceulemans model[1] may be applicable to d^5 systems as well as d^3 and d^6 systems suggests that a unifying concept relating ligand field photosubstitution processes of d^n systems may be emerging.

Kinetic modeling of experimental data utilized a fouth-order Runge–Kutta integration of the rate equations on the Clemson University IBM 370/3033 computer. Initially, either $SP_{apical}*$ or $SP_{basal}*$ was given a unit concentration (all other concentrations were set at zero), and rate constants and reaction times were varied until at least 99% of the initial concentration appeared as ground-state SP_{apical} and SP_{basal}.

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[12] The kinetic treatment applied here can be used to analyze the photochemical reactions of the Co(III) analogues *cis*-$Co(en)_2Cl_2^+$ (Sheridan, P. S.; Adamson, A. W. *J. Am. Chem. Soc.* **1974**, *96*, 3032) and *trans*-$Co(en)_2Cl_2^+$ (Pribush, R. A.; Poon, C. K.; Bruce, C. M.; Adamson, A. W. *Ibid.* **1974**, *96*, 3027).

Additions and Corrections

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M. S. Delaney, C. B. Knobler, and M. F. Hawthorne*: A Designed Metallacarborane Catalyst. Synthesis, Structure, and Reactions of $[closo\text{-}1,3\text{-}[\mu\text{-}(\eta^2\text{-}3\text{-}CH_2{=}CHCH_2CH_2)]\text{-}3\text{-}H\text{-}3\text{-}PPh_3\text{-}3,1,2\text{-}RhC_2B_9H_{10}]$.

Page 1347. In Table VI, under substrate, the second to last entry reads *3,3-dimethylbut-1-ene*. The correct entry should read *3,3-dimethylbut-1-yne*.—M. F. Hawthorne

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Edward H. Wong* and Fontaine C. Bradley: Hydrolysis of Chlorodiphenylphosphine Complexes of Molybdenum and Palladium.

Page 2333. In Table I, the ^{31}P NMR chemical shift for *cis*-$Mo(CO)_4(PPh_2Cl)_2$ should be 126.4 ppm and that for *trans*-$(CO)_4Mo(PPh_2Cl)_2$ should be 137.4 ppm.—Edward H. Wong