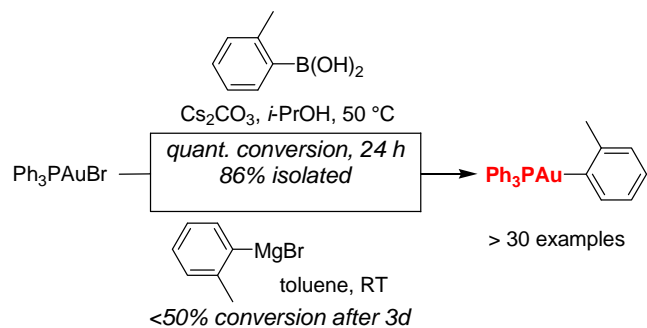
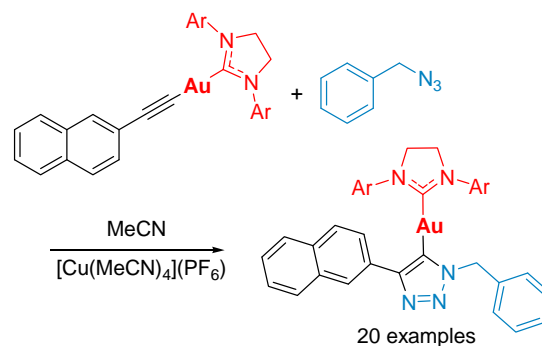


# GRAY LABORATORY RESEARCH

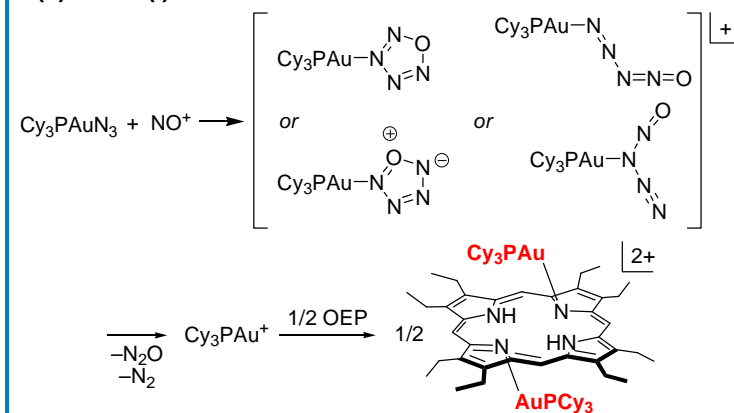
## (1) CARBON-GOLD BOND FORMATION



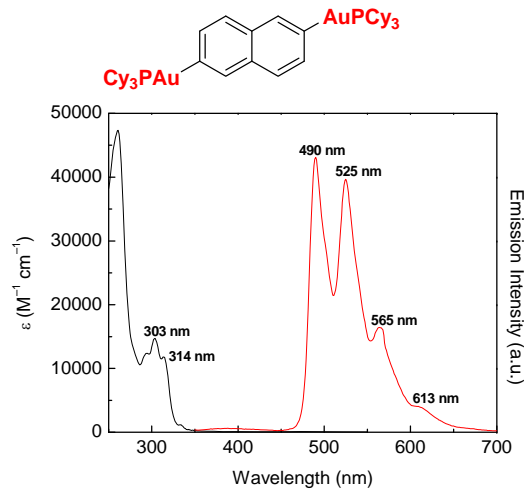
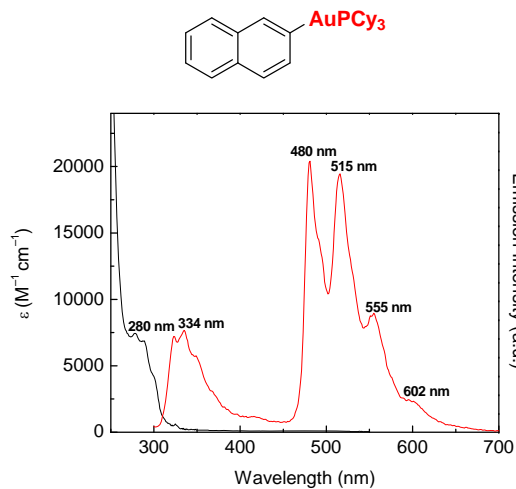
## (3) GOLD CLICK CHEMISTRY



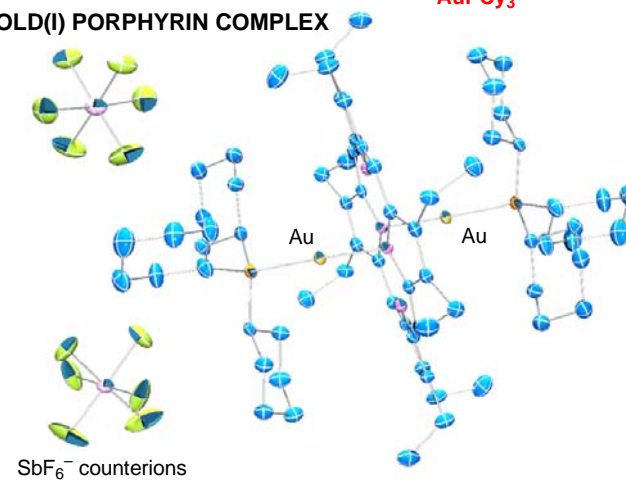
## (4) GOLD(I) AZIDES AS MASKED CATION EQUIVALENTS



## (2) ABSORPTION AND EMISSION OF GOLD(I) NAPHTHALENES



## A GOLD(I) PORPHYRIN COMPLEX



# SELECTED RECENT GRAY GROUP PUBLICATIONS

## *Solar Energy Recovery, with and without Gold*

“Homoleptic, Four-Coordinate Azadipyrromethene Complexes of  $d^{10}$  Zinc and Mercury,” Teets, T. S.; Partyka, D. V.; Updegraff, J. B. III; Gray, T. G. *Inorg. Chem.* **2008**, *47*, 2338–2346.

“Three-Coordinate, Phosphine-Ligated Azadipyrromethene Complexes of Univalent Group 11 Metals,” Teets, T. S.; Updegraff, J. B.; Gray, T. G. *Inorg. Chem.* **2009**, *48*, 8134–8144.

“*fac*-Tricarbonyl Rhenium(I) Azadipyrromethene Complexes,” Partyka, D. V.; Deligonul, N.; Washington, M. P.; Gray, T. G. *Organometallics* **2009**, *28*, 5837–5840.

## *Organogold Chemistry and Photophysics*

“Relativistic Functional Groups: Aryl Carbon-Gold Bond Formation by Selective Transmetallation of Boronic Acids,” Partyka, D. V.; Zeller, M.; Hunter, A. G.; Gray, T. G. *Angew. Chem., Int. Ed.* **2006**, *45*, 8188–8191.

“Probing the Steric Limits of Carbon-Gold Bond Formation: (Dialkylbiarylphosphine)gold(I) Aryls,” Partyka, D. V.; Updegraff, J. B. III; Zeller, M.; Hunter, A. D.; Gray, T. G. *Organometallics* **2009**, *28*, 1666–1674.

“Mono- and Di-Gold(I) Naphthalenes and Pyrenes: Synthesis, Crystal Structures, and Photophysics,” Geo, L.; Peay, M. A.; Partyka, D. V.; Updegraff, J. B. III; Teets, T. S.; Esswein, A. J.; Zeller, M.; Hunter, A. D.; Gray, T. G. *Organometallics* **2009**, *28*, 5669–5681.

## *Anti-Cancer Chemistry with Gold*

“Copper-Catalyzed Huisgen [3 + 2] Cycloaddition of Gold(I) Alkynyls with Benzyl Azide. Syntheses, Structures, and Optical Properties,” Partyka, D. V.; Gao, L.; Updegraff, J. B. III; Deligonul, N.; Gray, T. G., *Organometallics* **2009**, *28*, 6171–6182.

“A Porphyrin Complex of Gold(I): (Phosphine)gold(I) Azides as Cation Precursors,” Partyka, D. V.; Robilotto, T. J.; Zeller, M.; Hunter, A. D.; Gray, T. G. *Proc. Natl. Acad. Sci., U.S.A.* **2008**, *105*, 14293–14297.