

d, $J(\text{PH}) \approx 11$ Hz, after selective decoupling of the nonhydridic protons).

X-ray Structure Determination. An Enraf-Nonius CAD4 diffractometer equipped with a graphite monochromator was used for data collection. The most important crystallographic data are reported in Table III; the detailed ones are given in Table SI (supplementary material). Unit cell parameters were determined from the θ values of 30 carefully centered reflections, having $10 < \theta < 17^\circ$. Data were collected at room temperature, the individual profiles having been analyzed following Lehmann and Larsen.¹⁶ The structure amplitudes were obtained after usual Lorentz and polarization reduction.¹⁷ A correction for absorption was applied (maximum and minimum values for the transmission factors were 1.109 and 0.866, respectively).¹⁸

The structure was solved by standard Patterson and Fourier methods and refined by full-matrix least squares first with isotropic and then with anisotropic thermal parameters for all the non-hydrogen atoms excepting the carbons of the phenyl groups. The hydride was clearly localized in

the final ΔF map, but not refined; the other hydrogen atoms were placed at their geometrically calculated positions and introduced in the final structure factor calculation. The final cycles of refinement were carried out on the basis of 379 variables; after the last cycle, no parameters shifted by more than 0.5 esd. The biggest remaining peak in the final difference map was equivalent to about $0.6 e/\text{\AA}^3$. The analytical scattering factors, corrected for the real and imaginary parts of anomalous dispersions, were taken from ref 19. The final atomic coordinates for the non-hydrogen atoms are given in Table IV. The atomic coordinates of the hydrogen atoms are given in Table SII, and thermal parameters of the non-hydrogen atoms, in Table SIII (supplementary material).

Acknowledgment. This work was supported by the Italian CNR and Ministero della Pubblica Istruzione. We thank Johnson-Matthey, Ltd., for a generous loan of $\text{IrCl}_3 \cdot 3\text{H}_2\text{O}$.

Registry No. 1, 51540-63-7; 2, 121232-41-5; benzo[*h*]quinoline, 230-27-3.

Supplementary Material Available: Tables SI-S3, listing detailed crystal data and intensity collection parameters, coordinates and isotropic thermal parameters for the hydrogen atoms, and thermal parameters for the non-hydrogen atoms, and a complete list of interatomic distances and angles, least-squares planes, torsion angles, and possible hydrogen bonds (32 pages); a listing of observed and calculated structure factors (22 pages). Ordering information is given on any current masthead page.

- (16) Lehmann, M. S.; Larsen, F. K. *Acta Crystallogr., Sect. A* **1974**, *A30*, 580.
 (17) Data reduction, structure solution, and refinement were carried out on the CRAY X-MP/12 computer of the "Centro di Calcolo Elettronico Interuniversitario dell'Italia Nord-Orientale" (CINECA, Bologna, Italy) and on the GOULD-SEL 32/77 computer of the "Centro di Studio per la Strutturistica Diffratometrica" del CNR, Parma, Italy, using the SHELX-76 system of crystallographic computer programs (Sheldrick, G. M. "Program for Crystal Structure Determination", University of Cambridge, England, 1976).
 (18) Walker, N.; Stuart, D. *Acta Crystallogr., Sect. A*, **1983**, *A39*, 158. The program ABSORB was used (Ugozzoli, F. *Comput. Chem.* **1987**, *11*, 109).

- (19) *International Tables for X-Ray Crystallography*; Kynoch Press: Birmingham, England, 1974; Vol. IV.

Additions and Corrections

1988, Volume 27

Graeme Douglas, Michael C. Jennings, Kenneth W. Muir, Ljubica Manojlović-Muir,* and Richard J. Puddephatt*: Synthesis and Structure of the Cluster Cation $[\text{Pt}_3(\mu_3\text{-S})(\text{AuPPh}_3)(\mu_3\text{-AgCl})(\mu\text{-Ph}_2\text{PCH}_2\text{PPh}_2)_3]^+$, Containing both PtAu and PtAg Bonds.

Pages 4516-4520. K. W. Muir was omitted from the list of authors. The following entries should be added to Table II: reflections used, 8006 [$I > 3\sigma(I)$, $2 \leq \theta(\text{Mo K}\alpha) \leq 22^\circ$]; parameters refined, 673.—Richard J. Puddephatt