[Ta(O_2C_20H_10-3,3'-(SiMe_3)_2)(H)(Cl)_2(PMe_3)_2] (S)-11

A solvent sealed NMR tube was charged with [(S)-9/(S)-10], benzene-d_6 (~1 mL), [PMe_3], and [Bu_3SnH]. There were no immediate spectroscopic changes noticeable in the mixture. After approx. 24 hours, however, formation of a Ta-H species appears to occur. Major peaks \(^1\)H NMR (C_6D_6, 30°C): \(\delta 22.0 \text{ [dd, } ^2J(\text{H-}^{31}\text{P}) = 92 \text{ Hz., Ta-H]}\); 8.24 (s), 6.67-8.41 (aromatics); 1.74 (br, NMe_2); 1.36 (d), 1.00 [d, \(^2J(\text{H-}^{31}\text{P}) = 9.2 \text{ Hz., PMe}_3\)]; 0.81 (s), 0.39 (s, SiMe_3). \(^{31}\)P NMR (C_6D_6, 30°C): \(\delta 10.9 \text{ [d, } ^2J(\text{P-}^{31}\text{P}) = 42.0 \text{ Hz., PMe}_3\); 3.7 [d, \(^2J(\text{P-}^{31}\text{P}) = 41.2 \text{ Hz., PMe}_3\).