

¹H-NMR of the proligand

N, N' dimethyl-4-[(E)-dimethylaminodiazenyl]-5-carboxamide imidazolium iodide

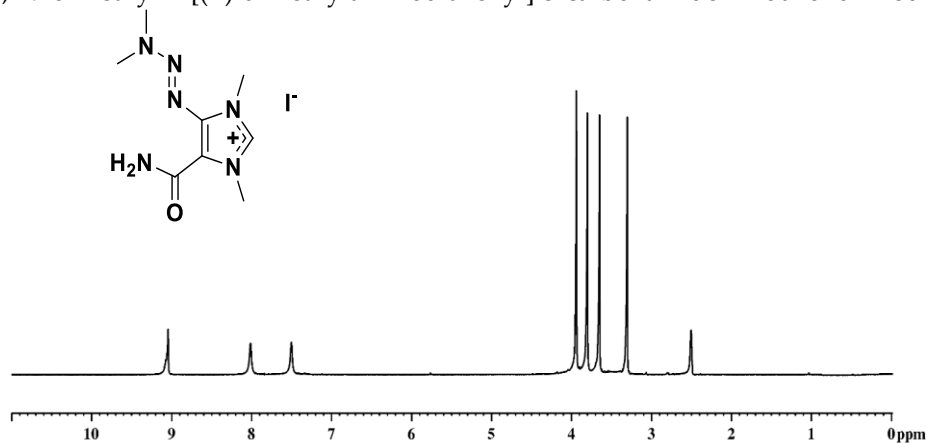


Figure S1. ¹H-NMR (400 MHz, DMSO-d₆) ppm δ : 9.0₉ (s, 1H, NCHN), 8.0₁, 7.5₀ (s, 2H, NH₂), 3.9₄ (s, 3H, NCH₃), 3.8₀ (s, 3H, NCH₃), 3.6₅, 3.4₀ (s, 6H, N(CH₃)₂).

¹³C-NMR of the proligand

N, N' dimethyl-4-[(E)-dimethylaminodiazenyl]-5-carboxamide imidazolium iodide

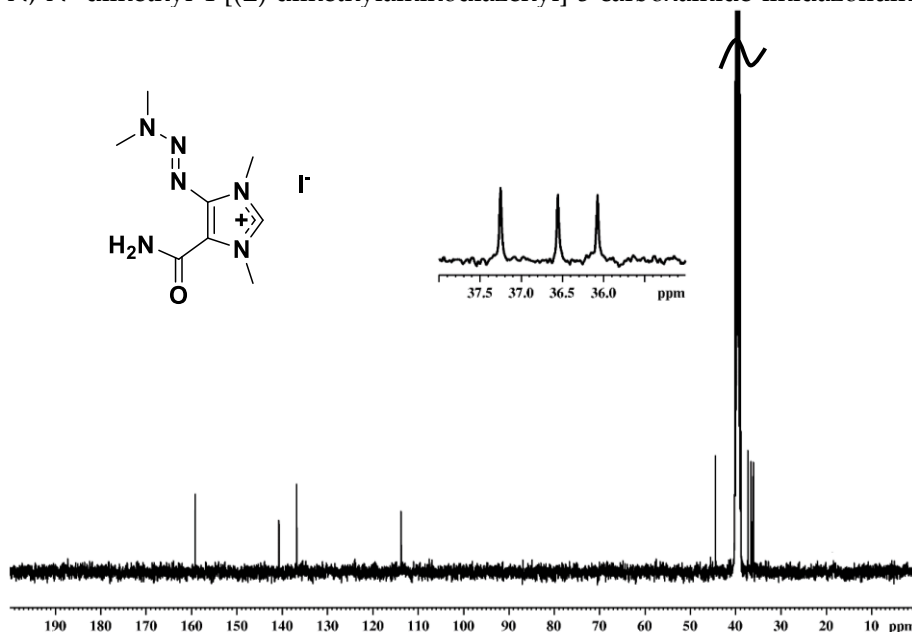


Figure S2. ¹³C-NMR (100 MHz, DMSO-d₆) ppm δ : 159.1₁(CONH₂), 140.6₈ (C=C(N=N-N)), 136.7₈ (NCHN), 113.7₄ (C=C(CONH₂), 44.4₂ (NCH₃), 37.2₅ (NCH₃), 36.5₅, 36.0₇ (N=N-N(CH₃)₂).

N, N' dimethyl-4-[(E)-dimethylaminodiazenyl]-5-carboxamide imidazolium iodide

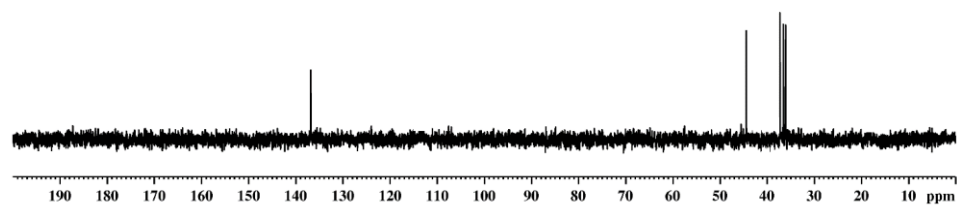


Figure S3. DEPT 135 of the proligand

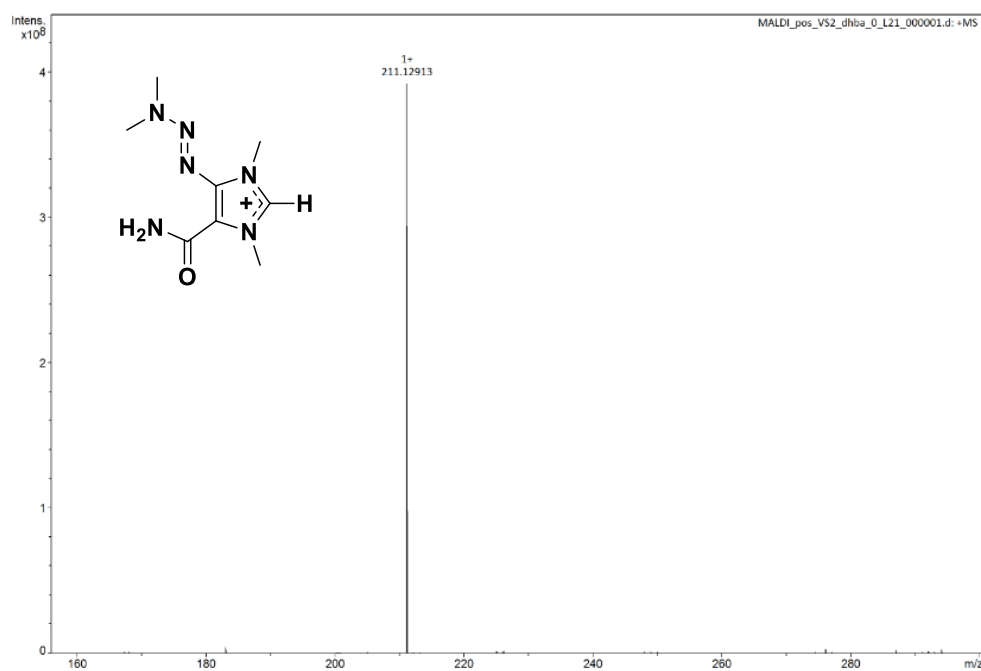


Figure S4. MALDI-ToF (m/z): 211.12913 attributable to the cationic portion of the imidazolium salt $[C_8H_{15}N_6O]^+$

^1H -NMR of the complex $(\text{NHC}^d)\text{AuCl}$

N, N' dimethyl-4-[(*E*)-dimethylaminodiazenyl]-5-carboxamide imidazolyden gold(I) chloride

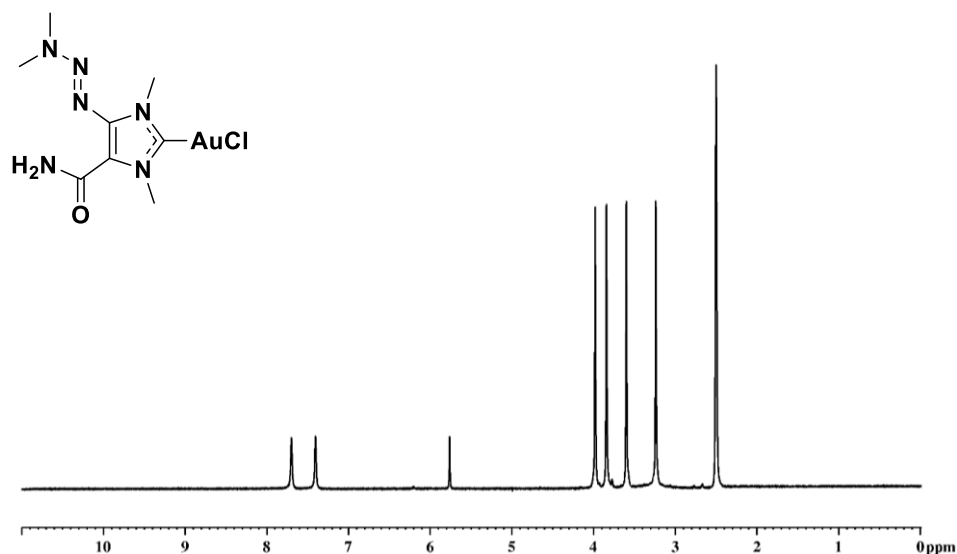


Figure S5. ^1H -NMR (400 MHz, DMSO- d_6) ppm δ : 7.69, 7.40 (s, 2H, NH_2), 3.97 (s, 3H, NCH_3), 3.84 (s, 3H, NCH_3), 3.59, 3.23 (s, 6H, $\text{N}(\text{CH}_3)_2$)

^{13}C -NMR of the complex $(\text{NHC}^d)\text{AuCl}$

N, N' dimethyl-4-[(*E*)-dimethylaminodiazenyl]-5-carboxamide imidazolyden gold(I) chloride

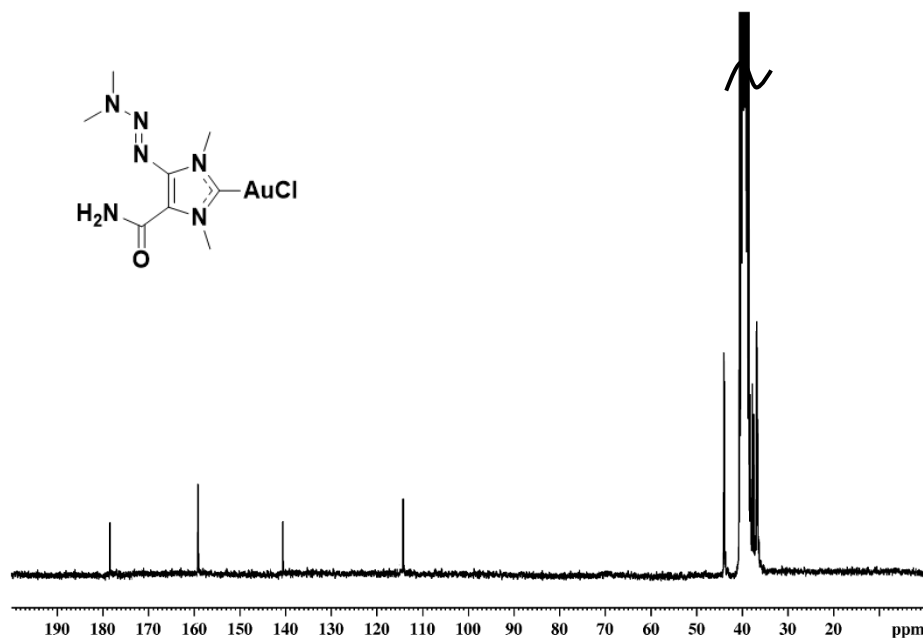
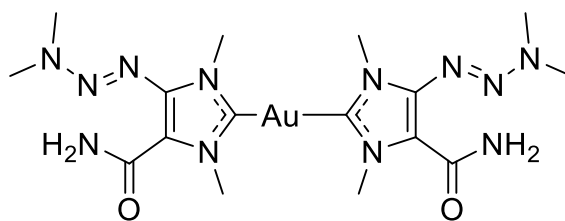


Figure S6. ^{13}C -NMR (100 MHz, DMSO- d_6) ppm δ : 178.43 (NCAuN), 159.14 (CONH_2), 140.71 ($\text{C}=\text{C}(\text{N}=\text{N}-\text{N})$), 114.25 ($\text{C}=\text{C}(\text{CONH}_2)$), 43.96 (NCH_3), 38.20 (NCH_3), 37.73, 37.42 ($\text{N}=\text{N}-\text{N}(\text{CH}_3)_2$)



MALDI-ToF

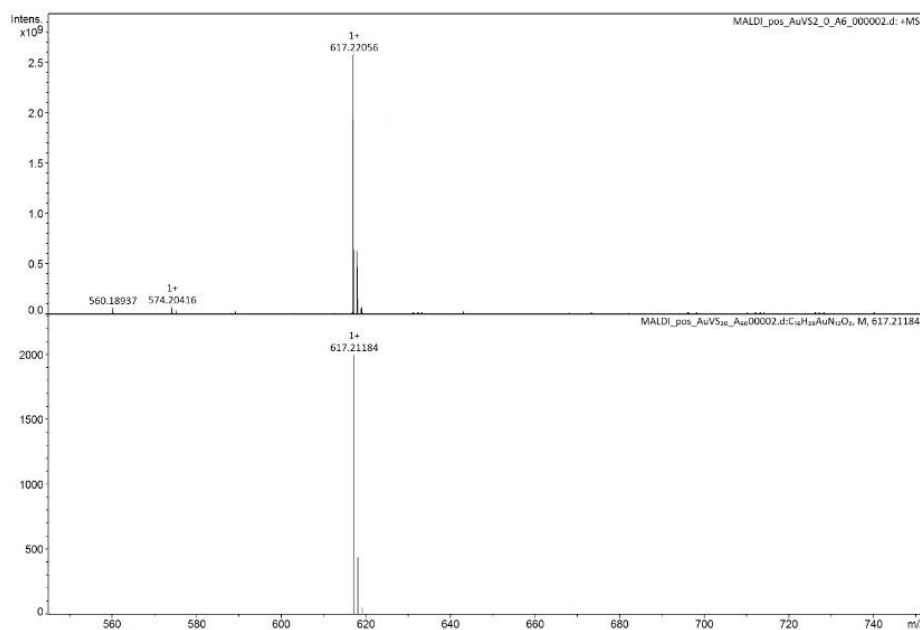


Figure S7. MALDI-ToF (m/z): 617.22056 attributable to a bis-carbene structure $[\text{C}_{16}\text{H}_{28}\text{AuN}_{12}\text{O}_2]^+$