Supplementary Information

Development of dansyl based copper (II) complex to detect hydrogen sulfide in hypoxia

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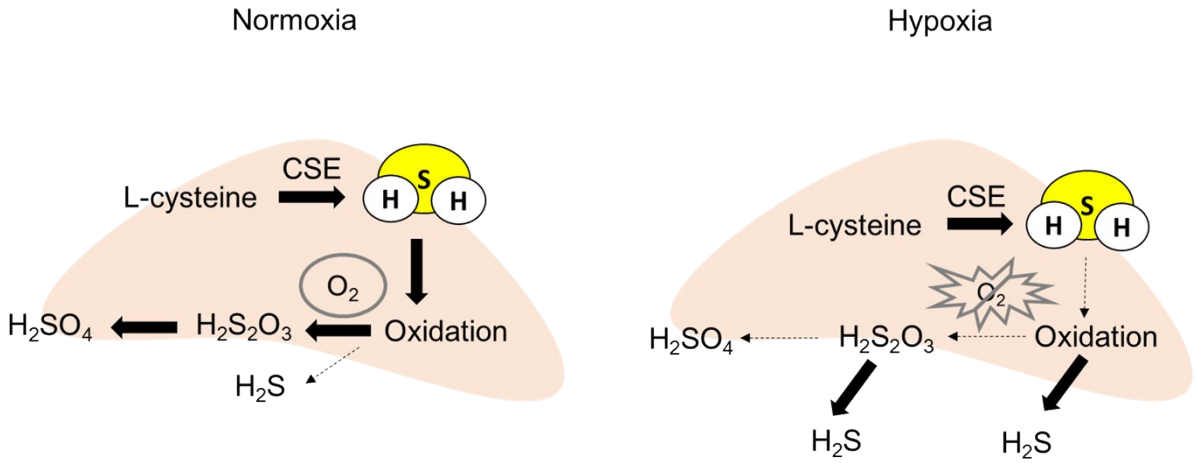

Fig. S1 Biological pathway for hydrogen production under hypoxia and normoxia

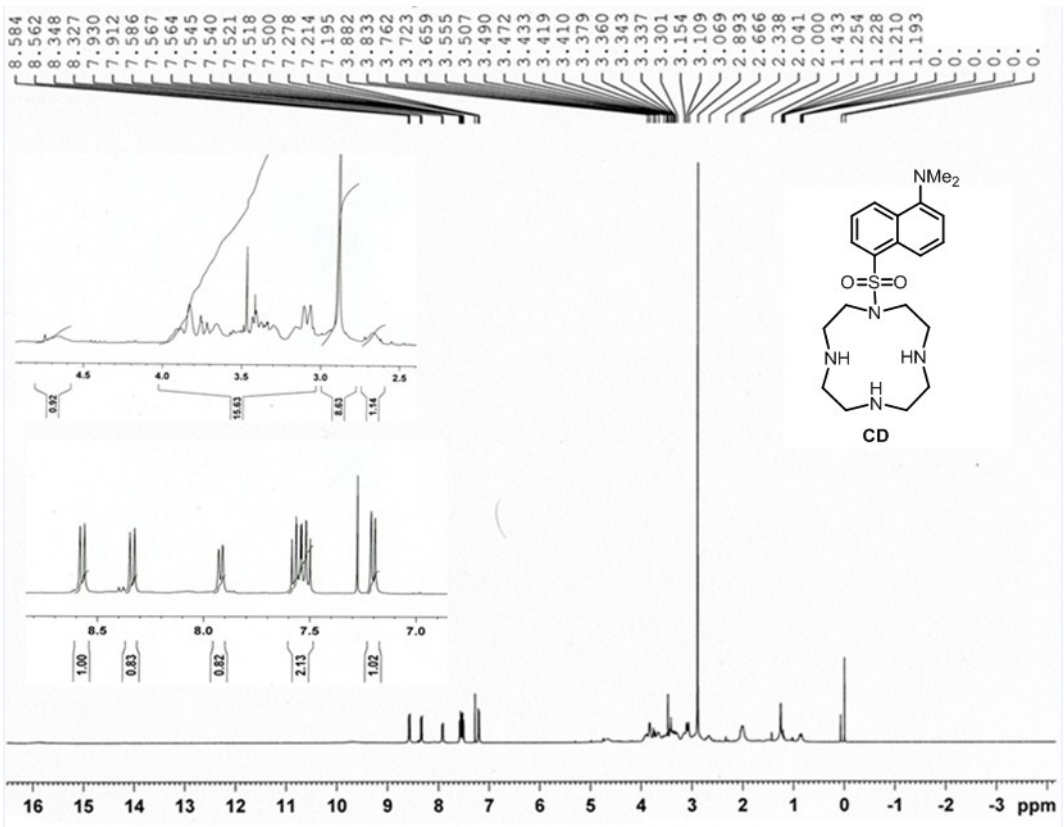

Fig. S2 ^{1}H NMR spectrum of **CD** in $CDCl_3$

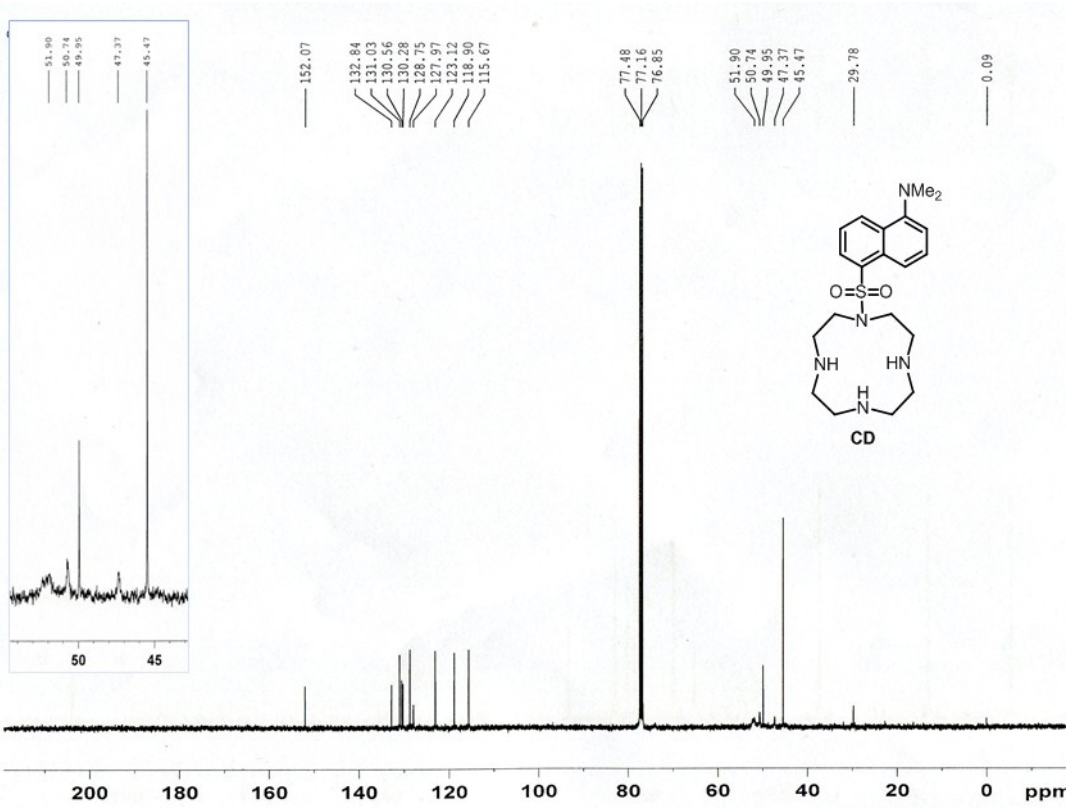

Fig. S3 ^{13}C NMR spectrum of **CD** in $CDCl_3$.

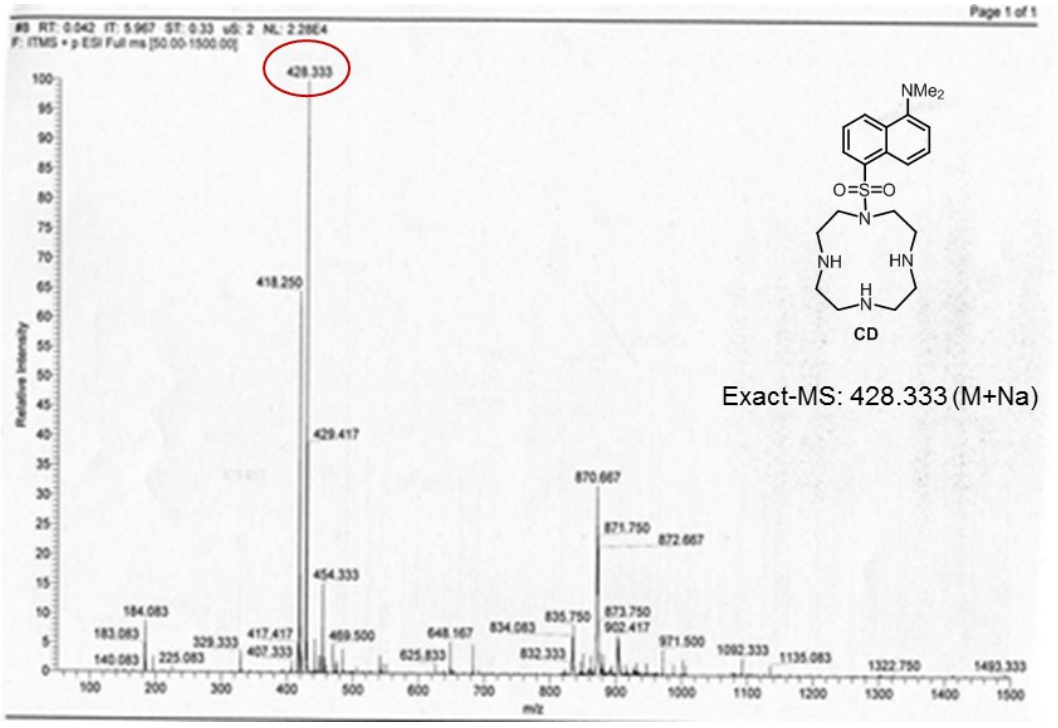

Fig. S4 HRMS spectrum of CD

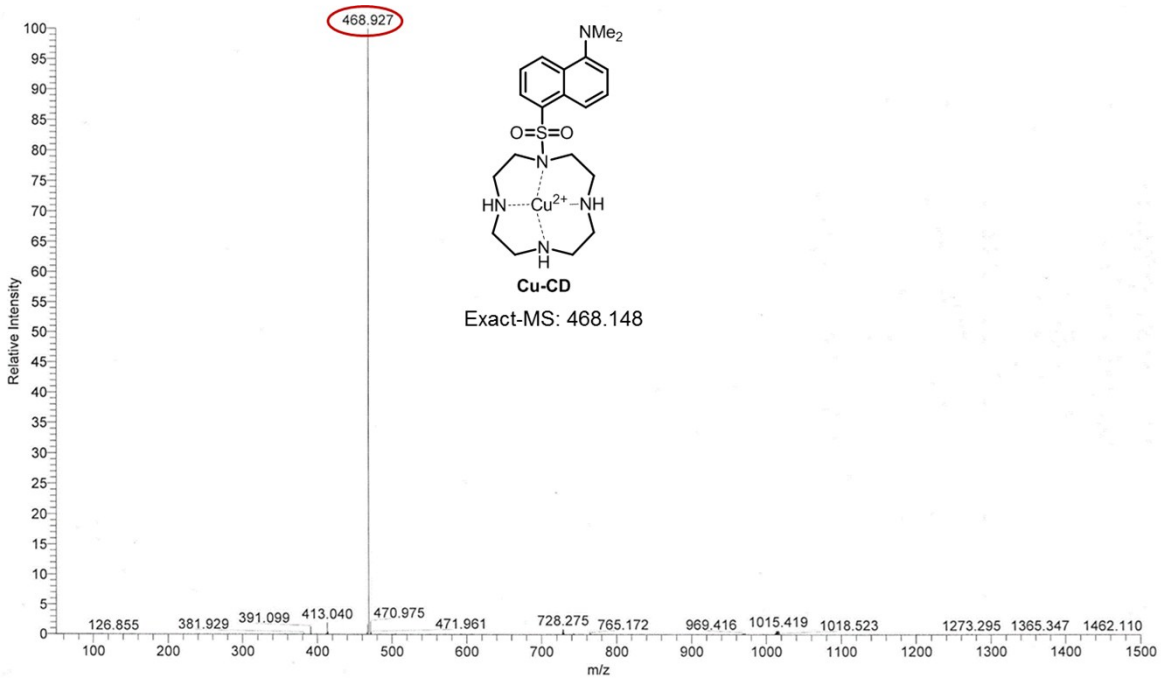

Fig. S5 HRMS spectrum of **Cu-CD**

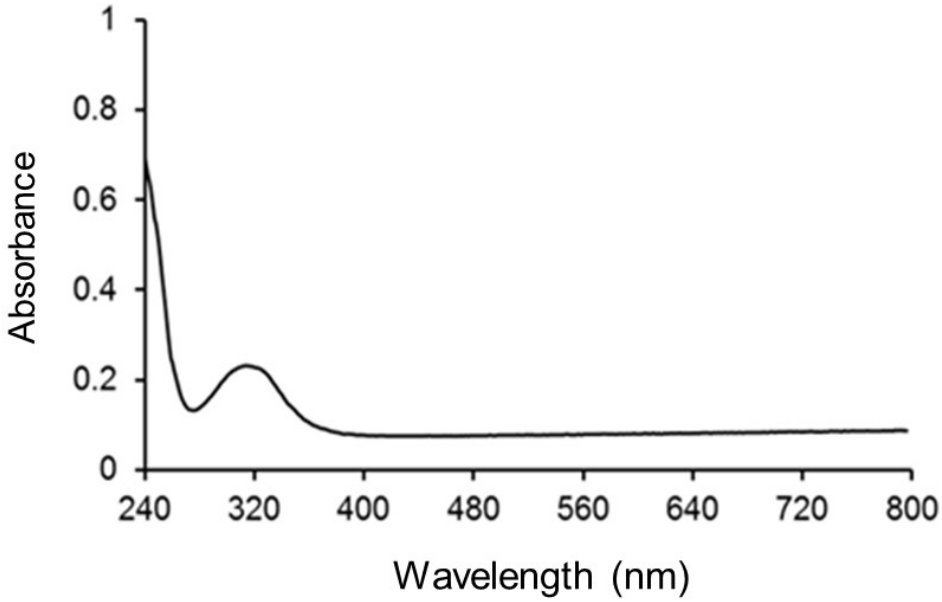

Fig. S6 UV absorption spectrum of compound **CD** (25 μM) in PBS buffer (10% DMSO).

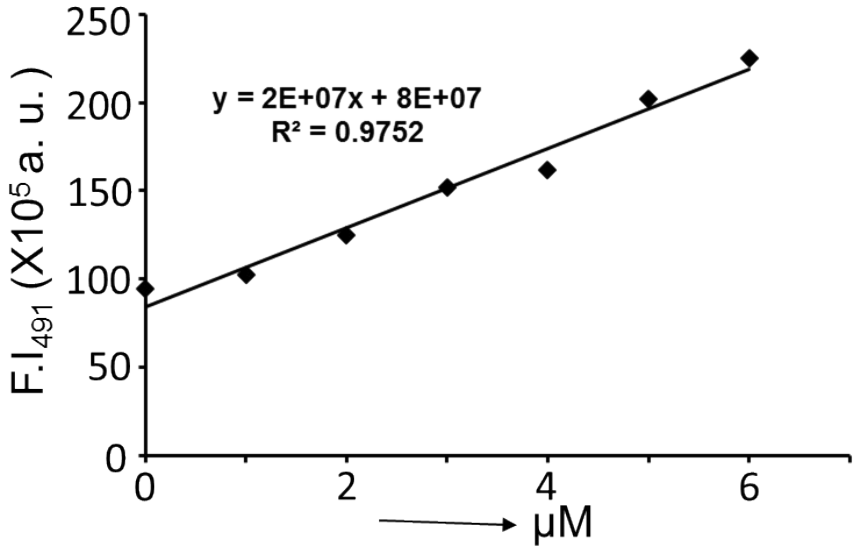

Fig. S7 Fluorescence Emission changes of **Cu-CD** (25 μM) in the presence of H_2S (0-6 μM)

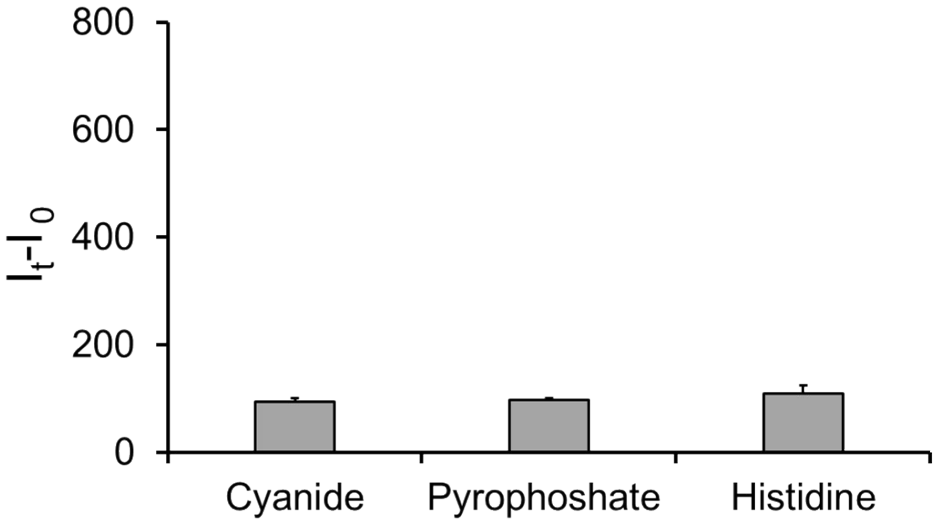

Fig. S8 Fluorescence intensity changes of **Cu-CD** (25 μM) upon addition of Cyanide, Histidine and Pyrophosphate (each analyte~200 μM) at 37 °C in PBS buffer for 45 min.

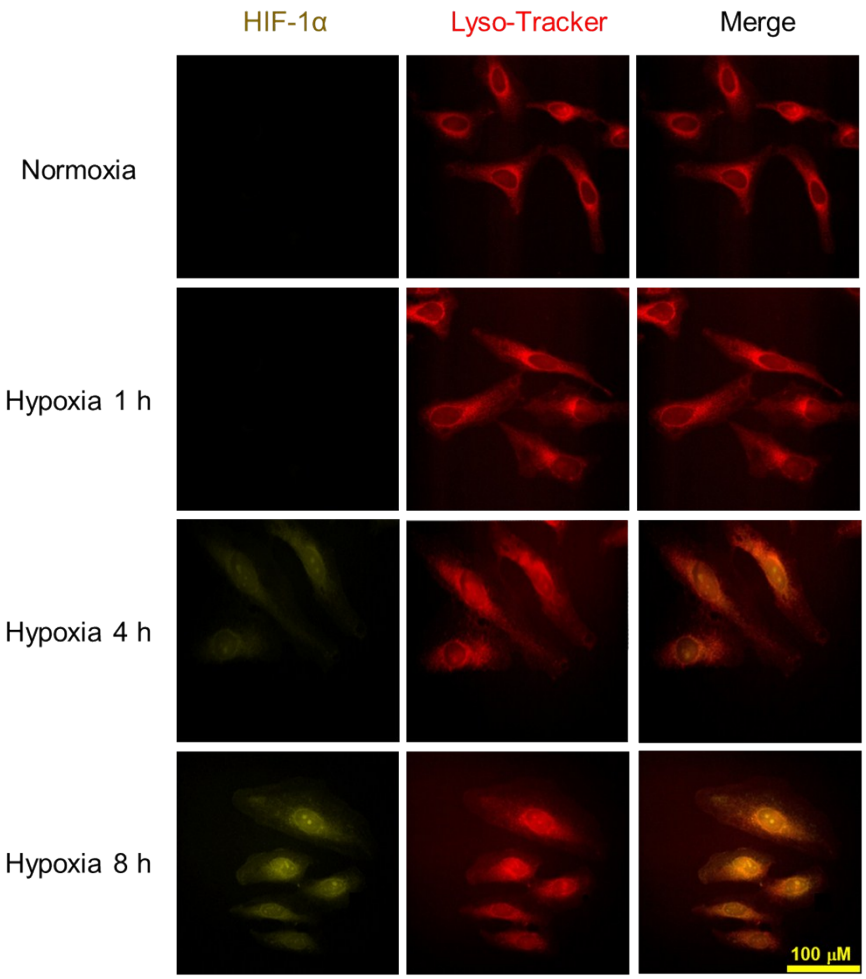

Fig. S9 Immunofluorescence imaging of HIF-1α expression under normoxia or hypoxia (1 h, 4 h, and 8 h) using HeLa cells. For acquiring immune-fluorescence images in normoxia or hypoxia condition, HeLa cells were incubated for 8 h in normal condition or introduced into the hypoxia incubator chamber for 1, 4 or 8 h. The fluorescence signals of the fluorescent probe and HIF-1α were merge with Lyso-Tracker deep red. Scale bars = 100 μm.

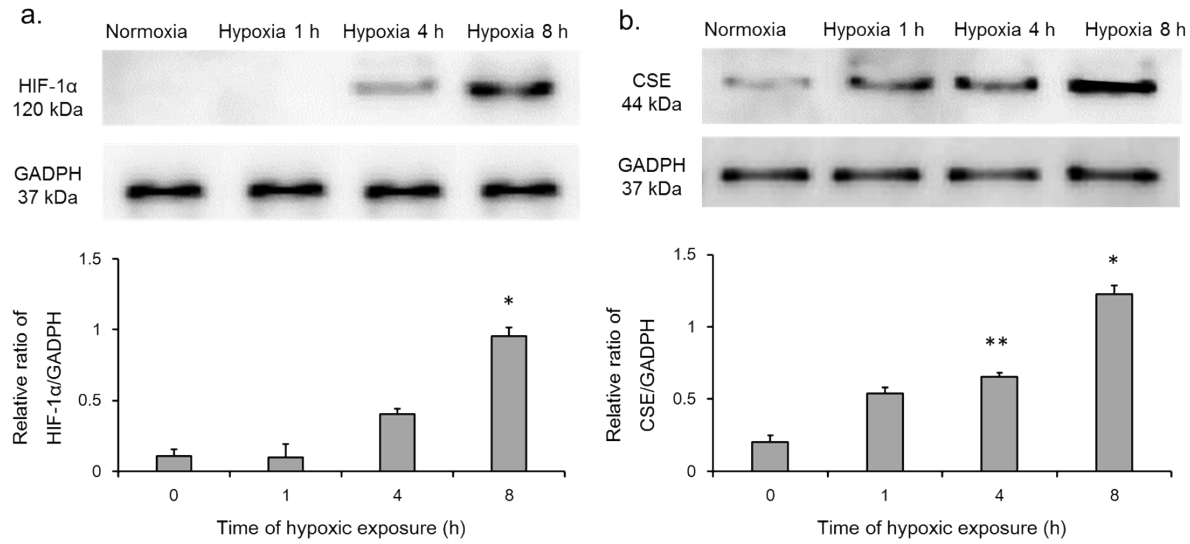

Fig. S10 Western blotting analysis of HIF-1α (a) CSE protein expression (b) under normoxia and hypoxia (1 h, 4 h, and 8 h) using HeLa cells and relative intensity normalized to the expression of GAPDH and relative ratio of the proteins was quantified using ImageJ software. $P < .05$; $^{**}P < .001$

Table 1: Fluorescence quantum yield of **Cu-CD** and **Cu-CD** in the presence of H_2S

	Φ_{fl}
Cu-CD	0.04
Cu-CD + H_2S	0.52