Supporting Information
Spectra and chemical shift assignment

Complex 1:

Table S1: Chemical shifts [ppm] of pyridine in the presence of **complex 1** (Scheme 1) obtained in a SABRE experiment.

δ/ppm	ortho	meta	para
catalyst bound pyridine	8.27	-	7.05
free pyridine	8.50	7.39	7.81

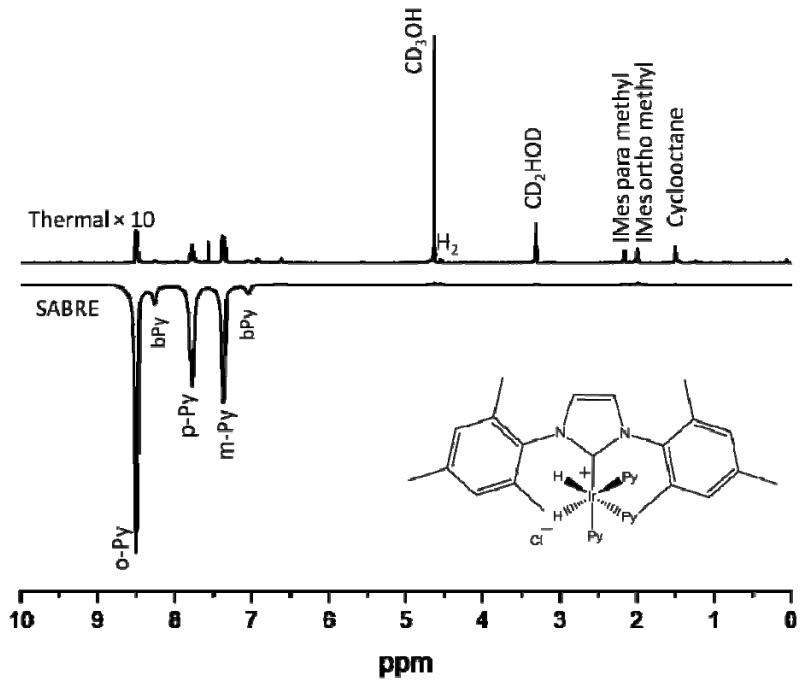

Fig. S1: Comparison of the ^{1}H SABRE spectrum and the thermal spectrum of pyridine (py) in the presence of complex **1** in $CDCl_3$:CD_3OD (1:1). Both spectra were measured at 300 MHz using a 90° single pulse experiment. 1 mg (2.6 mM) catalyst + 3.3 µl (68.1 mM) pyridine + 600 µl solvent (solvent mixture $CDCl_3$:CD_3OD (1:1)). T = 296.9 K

Complex 2:

Table S2: Chemical shifts [ppm] of pyridine in the presence of **complex 2** (Scheme 1) obtained in a SABRE experiment.

δ/ppm	ortho	meta	para
catalyst bound pyridine	8.33	-	7.24
free pyridine	8.51	7.39	7.80

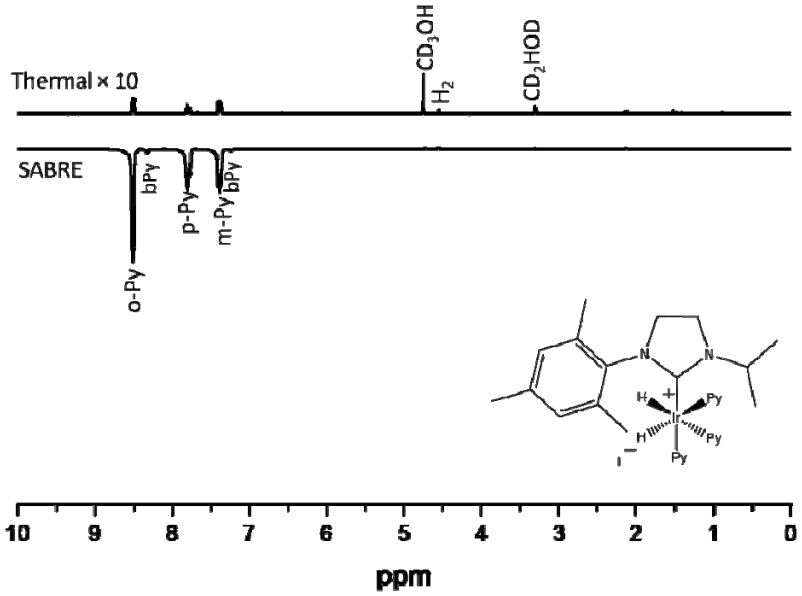

Fig. S2: Comparison of the ^{1}H SABRE spectrum and the thermal spectrum of pyridine (py) in the presence of complex **2** in $CDCl_3$:CD_3OD (1:1). Both spectra were measured at 300 MHz using a 90° single pulse experiment. 1 mg (2.5 mM) catalyst + 3.3µl (68.1 mM) pyridine + 600 µl solvent (solvent mixture $CDCl_3$:CD_3OD (1:1)). T = 297.3 K

Complex 3:

Table S3: Chemical shifts [ppm] of pyridine in the presence of **complex 3** (Scheme 1) obtained in a SABRE experiment.

δ/ppm	ortho	meta	para
catalyst bound pyridine	8.21	-	-
free pyridine	8.49	7.37	7.77

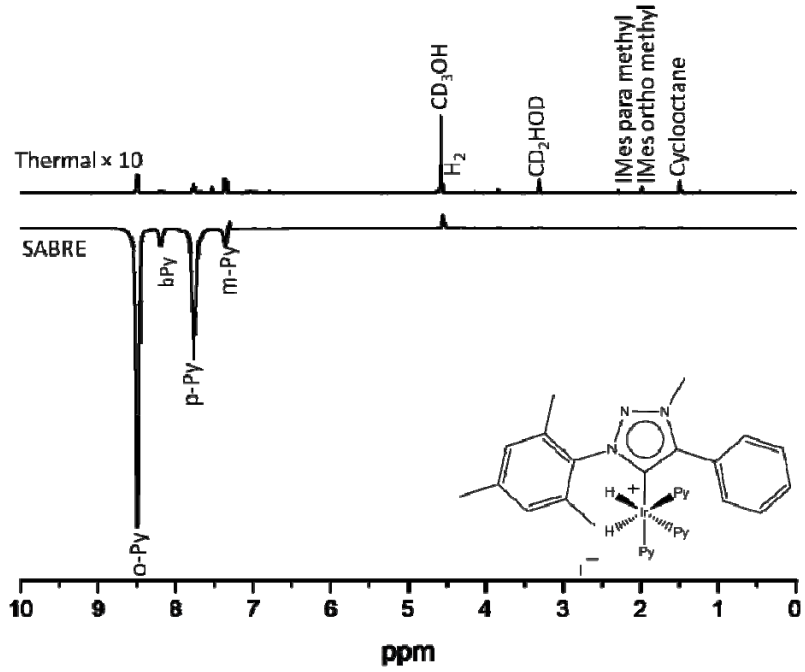

Fig. S3 Comparison of the ^{1}H SABRE spectrum and the thermal spectrum of pyridine (py) in the presence of complex **3** in $CDCl_3$:CD_3OD (1:1). Both spectra were measured at 300 MHz using a 90° single pulse experiment. 1 mg (2.4 mM) catalyst + 3.5 µl (72.3 mM) pyridine + 600 µl solvent (solvent mixture $CDCl_3$:CD_3OD (1:1)). T = 297.3 K.

Complex 4:

Table S4: Chemical shifts [ppm] of pyridine in the presence of **complex 4** (Scheme 1) obtained in a SABRE experiment.

δ/ppm	ortho	meta	para
catalyst bound pyridine	8.40	7.29	-
free pyridine	8.50	7.39	7.81

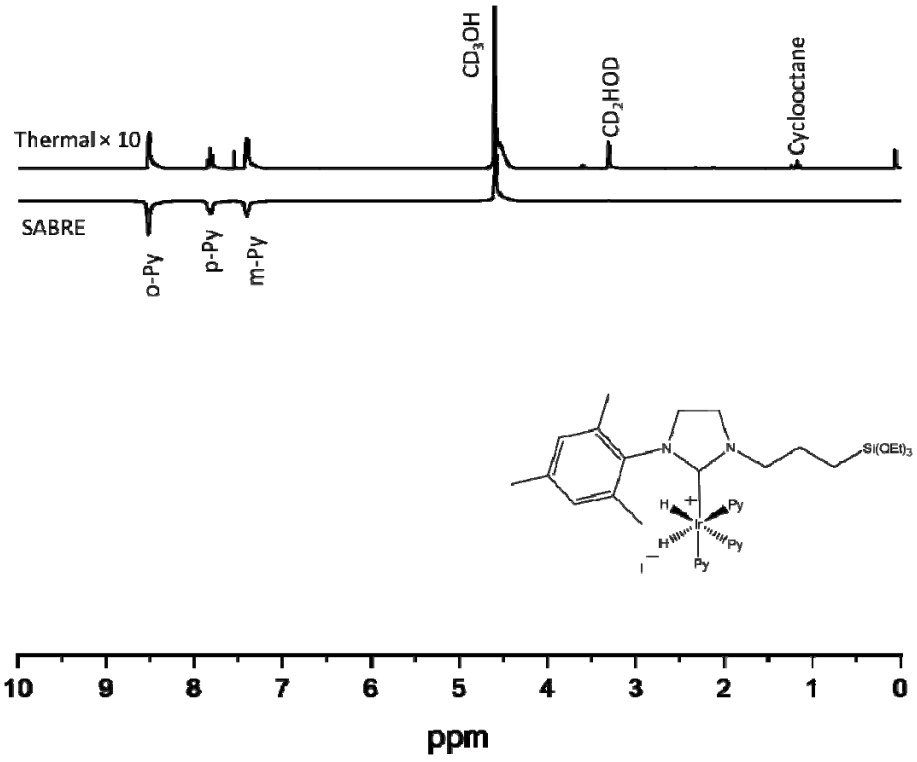

Fig. S4: ^{1}H SABRE spectrum of pyridine in the presence of complex 4 in $CDCl_3$:CD_3OD (1:1). The spectrum were measured at 300 MHz with 90° single pulse. 1.24 mg (2.5 mM) catalyst + 2.6 µl (53.7 mM) pyridine + 600 µl solvents (solvent mixture $CDCl_3$:CD_3OD (1:1)). T = 296.9 K.

Complex 5:

Table S5: Chemical shifts [ppm] of pyridine in the presence of **complex 5** (Scheme 1) obtained in a SABRE experiment.

δ/ppm	ortho	meta	para
catalyst bound pyridine	-	-	-
free pyridine	8.50	7.35	7.76

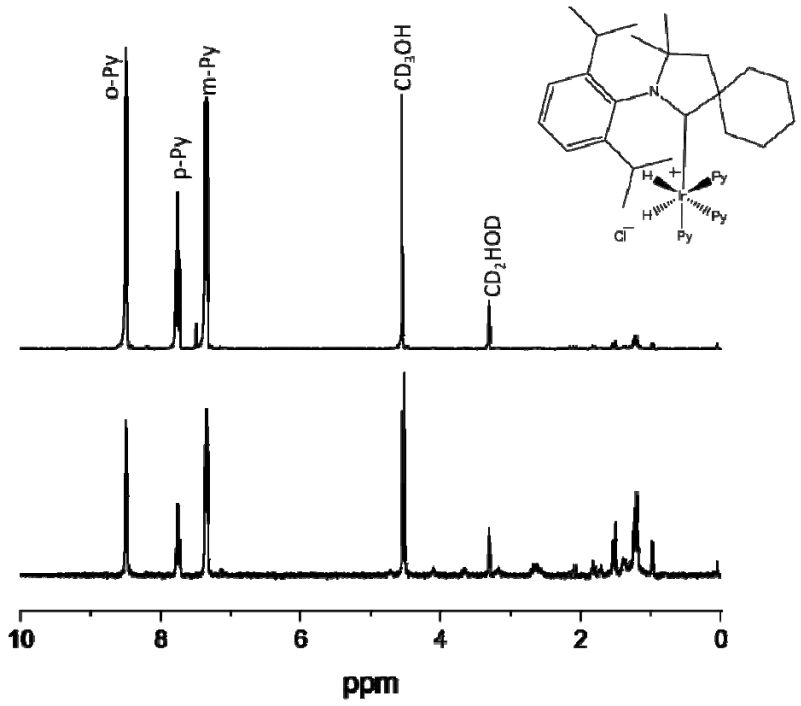

Fig. S5: Comparison of the ^{1}H SABRE spectrum and the thermal spectrum of pyridine (py) in the presence of complex **5** in $CDCl_3$:CD_3OD (1:1). Both spectra were measured at 300 MHz using a 90° single pulse experiment. 1 mg (2.5 mM) catalyst + 3.5 µl (72.3 mM) pyridine + 600 µl solvent (solvent mixture $CDCl_3$:CD_3OD (1:1)). T = 297.8 K.