

Supplementary Information

Hetero-bis(σ -aryl)dihodium (III) Caprolactamates. Electronic Communication Between Aryl Groups Through Dihodium(III)

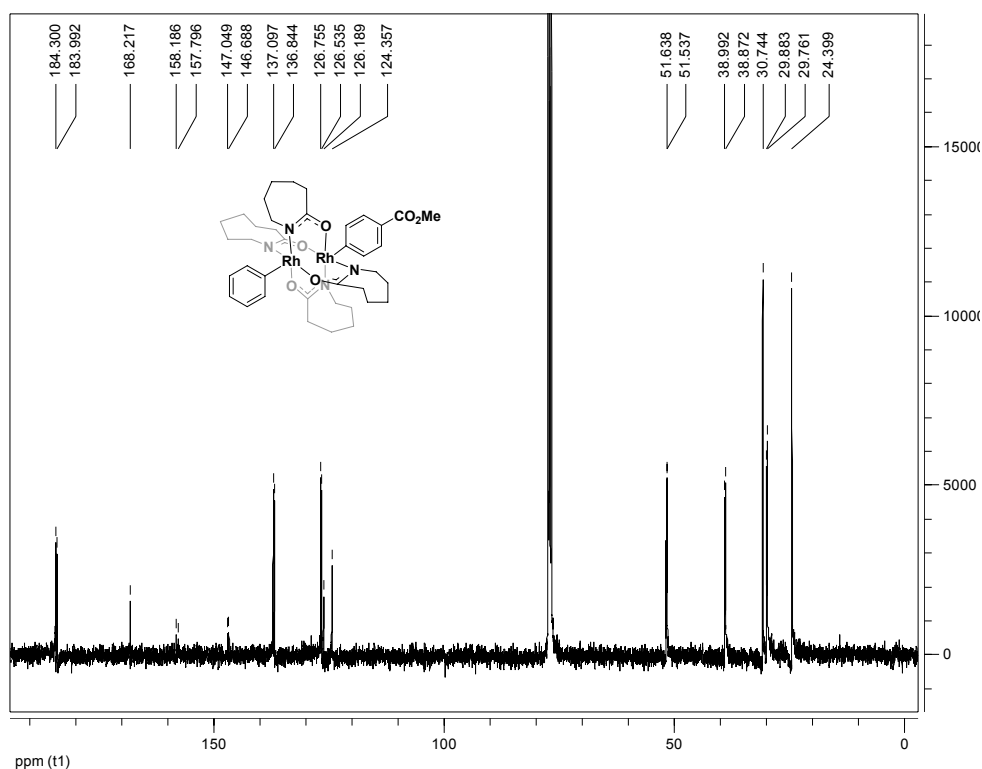
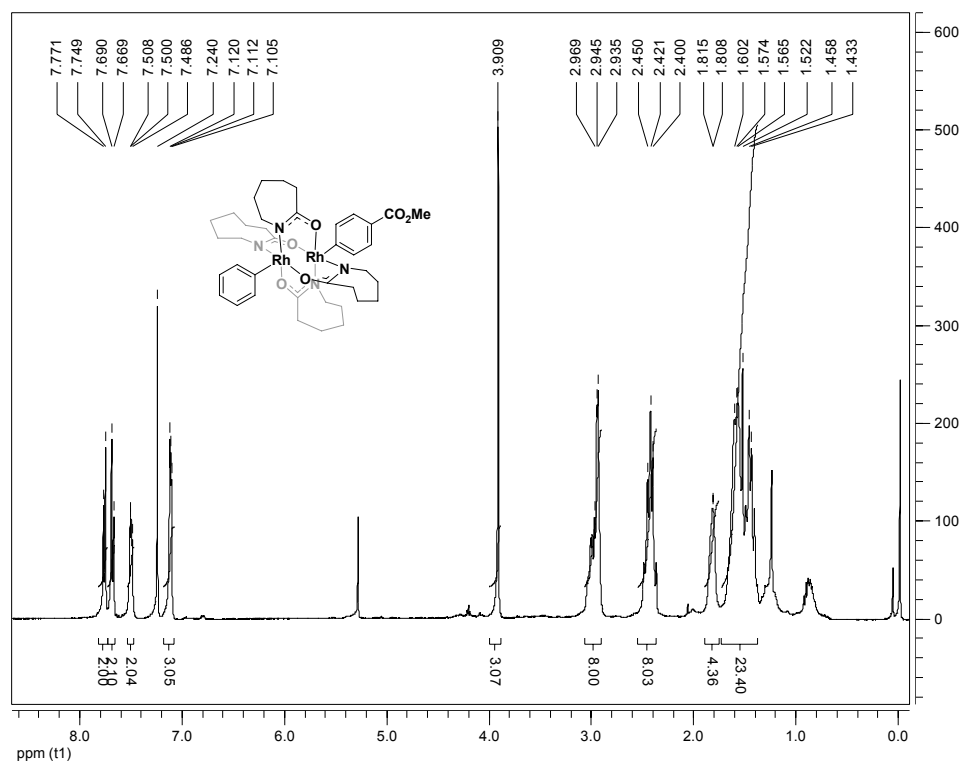
Jian-Hua Xie, Lei Zhou, Conrad Lubek, and Michael P. Doyle *

Department of Chemistry and Biochemistry, University of Maryland, College Park, Maryland 20742, USA

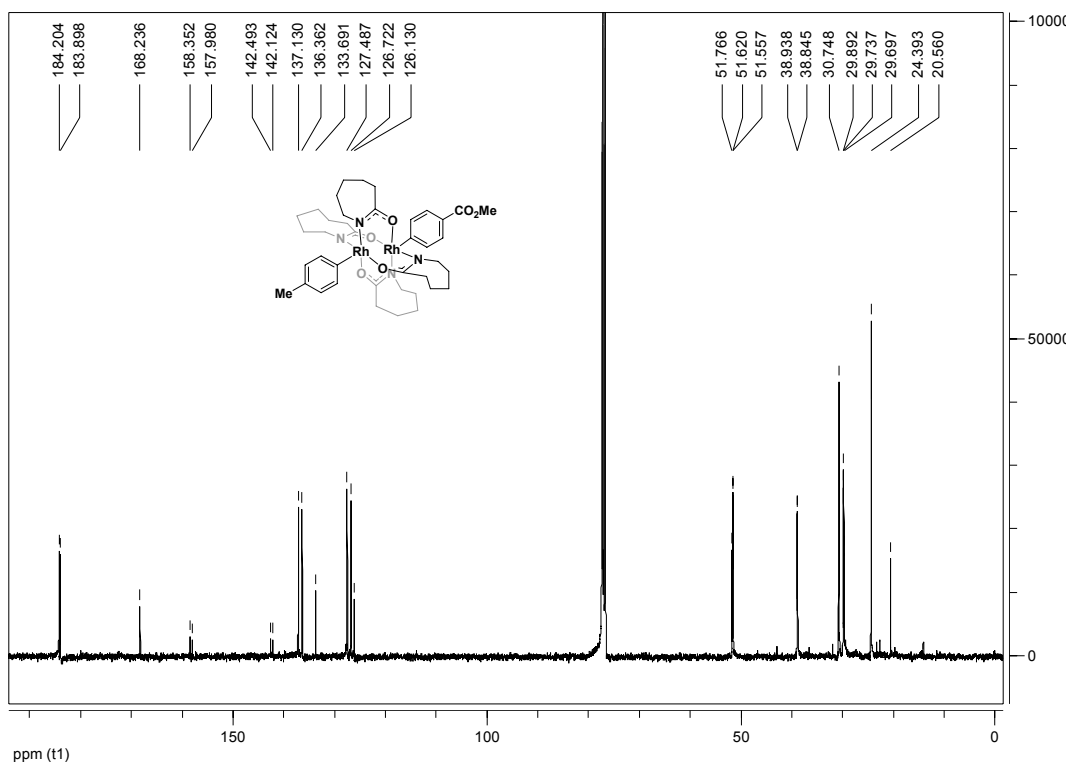
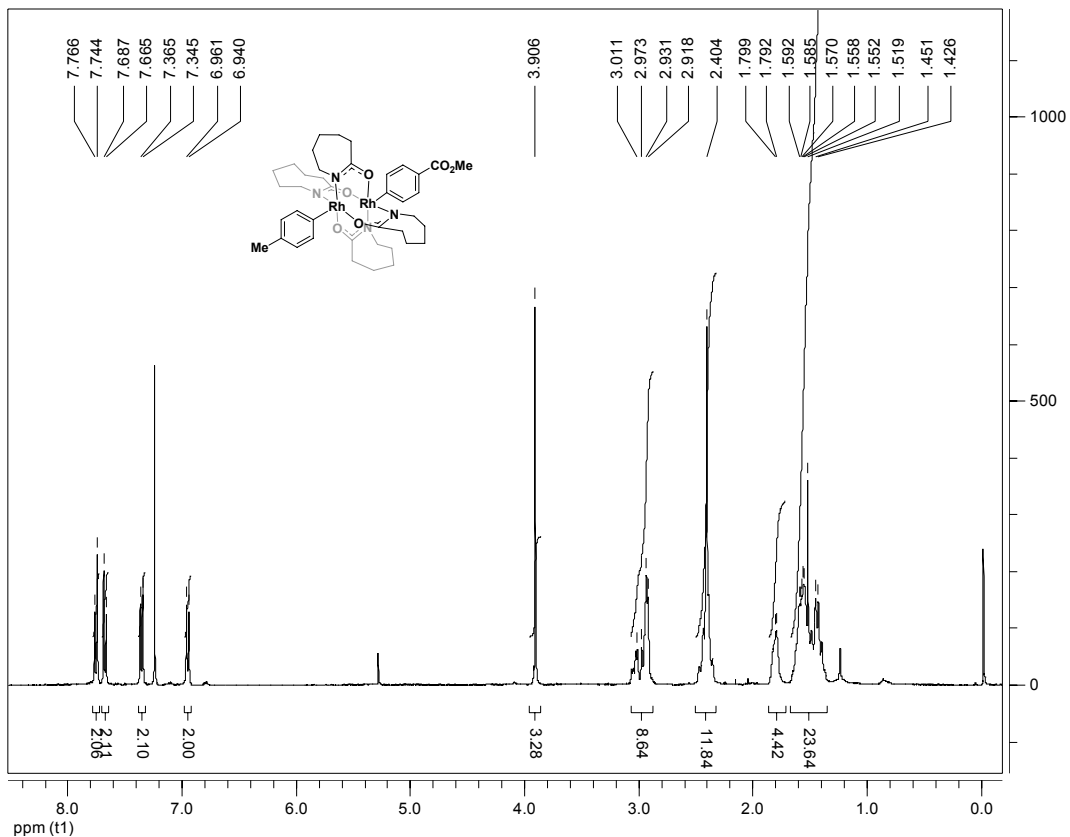
NMR spectra of hetero-bis(σ -aryl)dirhodium(III) caprolactamates (**1**)

trans-{ σ -Phenyl- σ -(4-methoxycarbonylphenyl)}-tetrakis- μ -(caprolactamato) dirhodium(III)

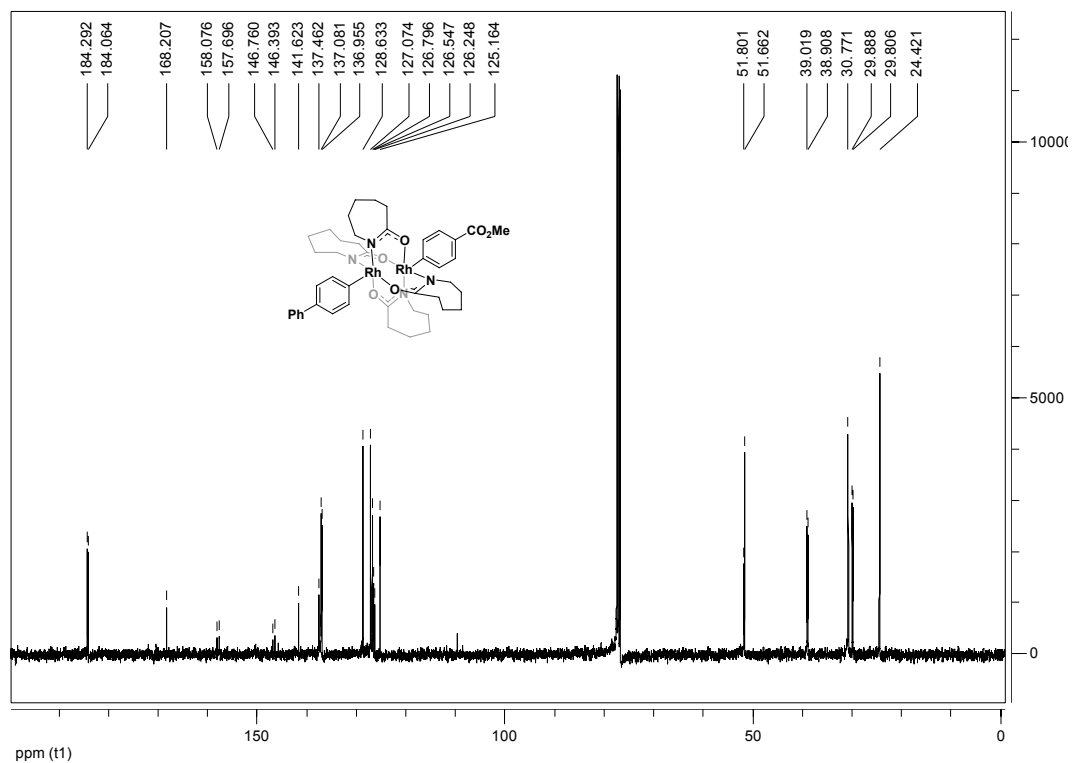
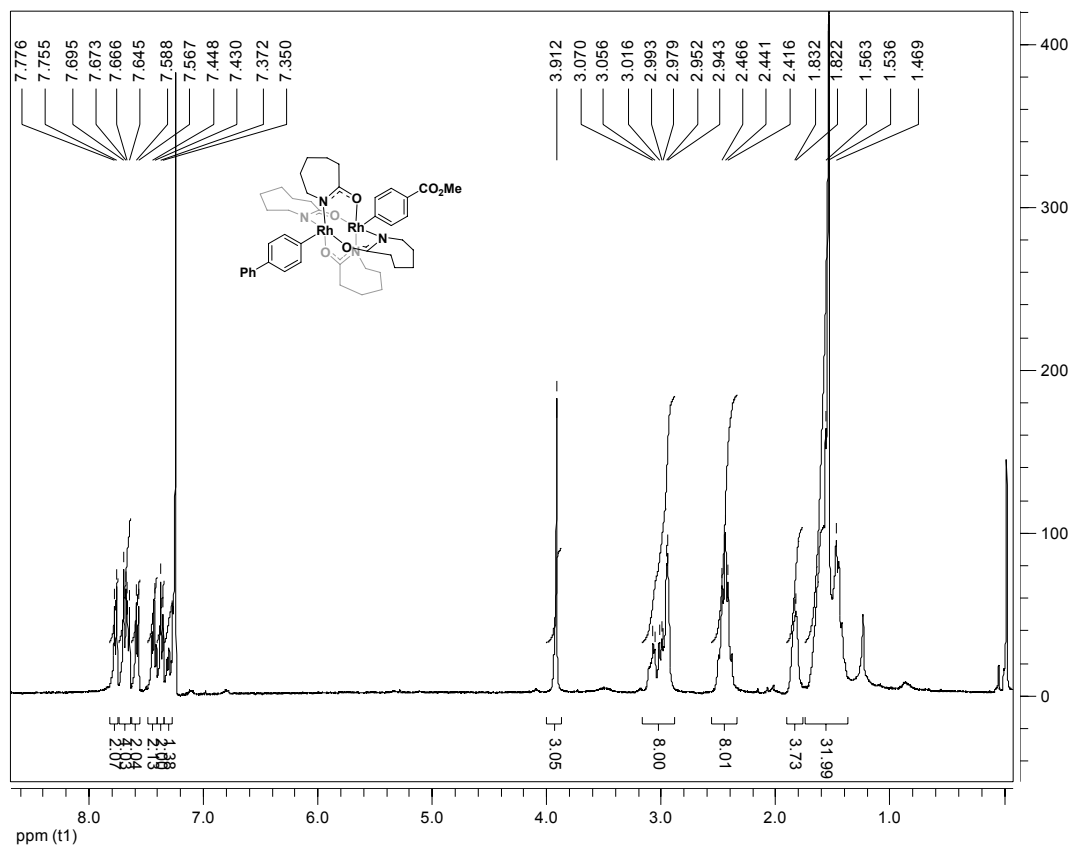
(**1a**).



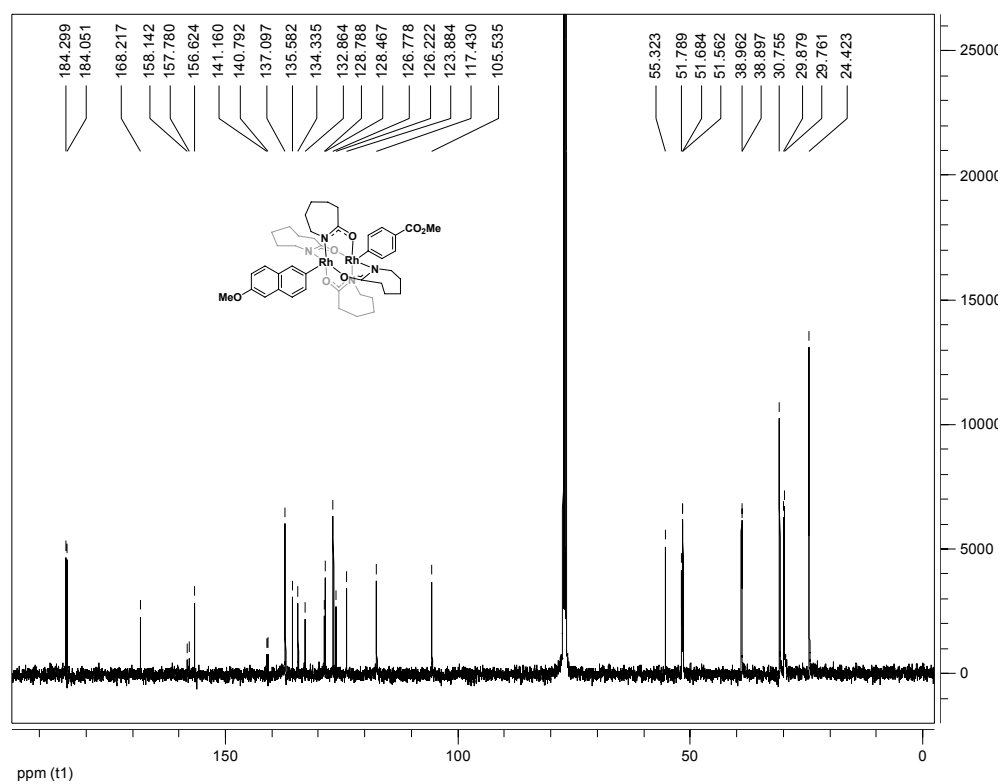
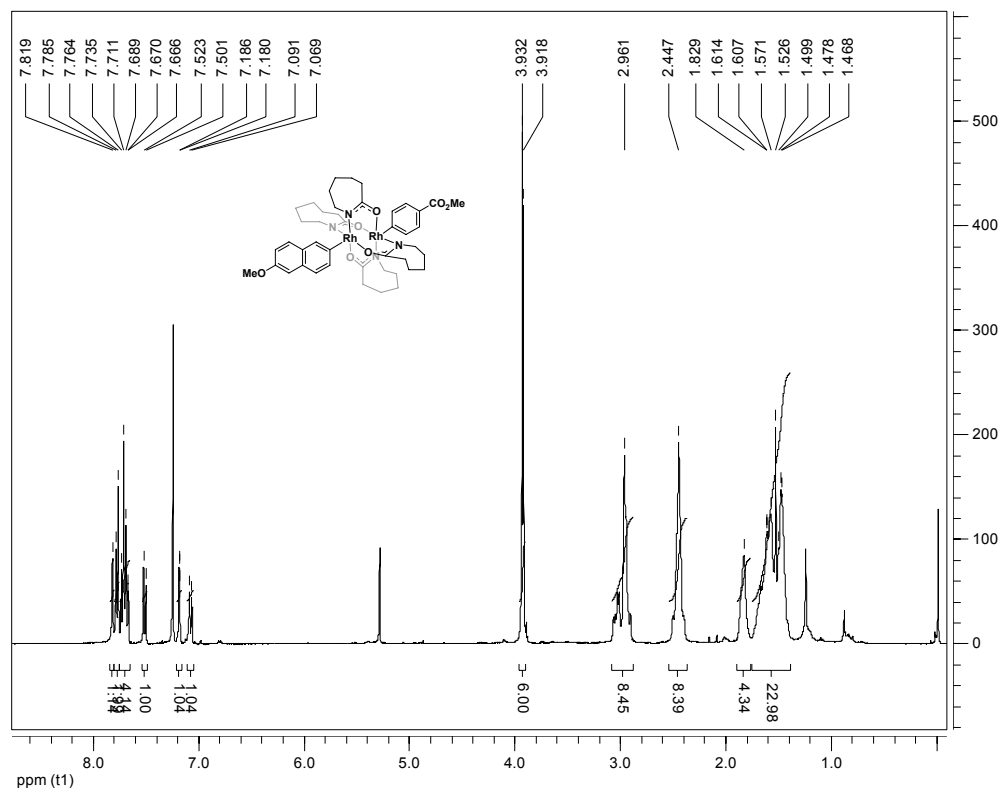
***trans*-{ σ -(4-Methylphenyl)- σ -(4-methoxycarbonylphenyl)}-*tetrakis- μ* -
(caprolactamato) dirhodium(III) (1b).**



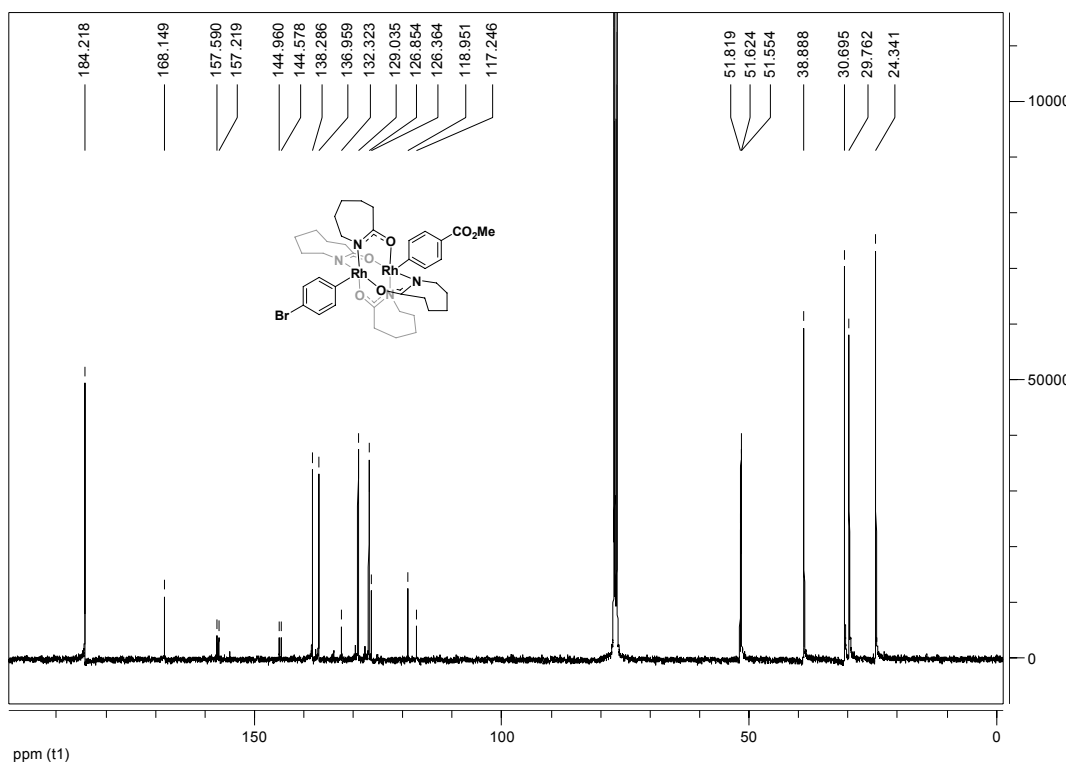
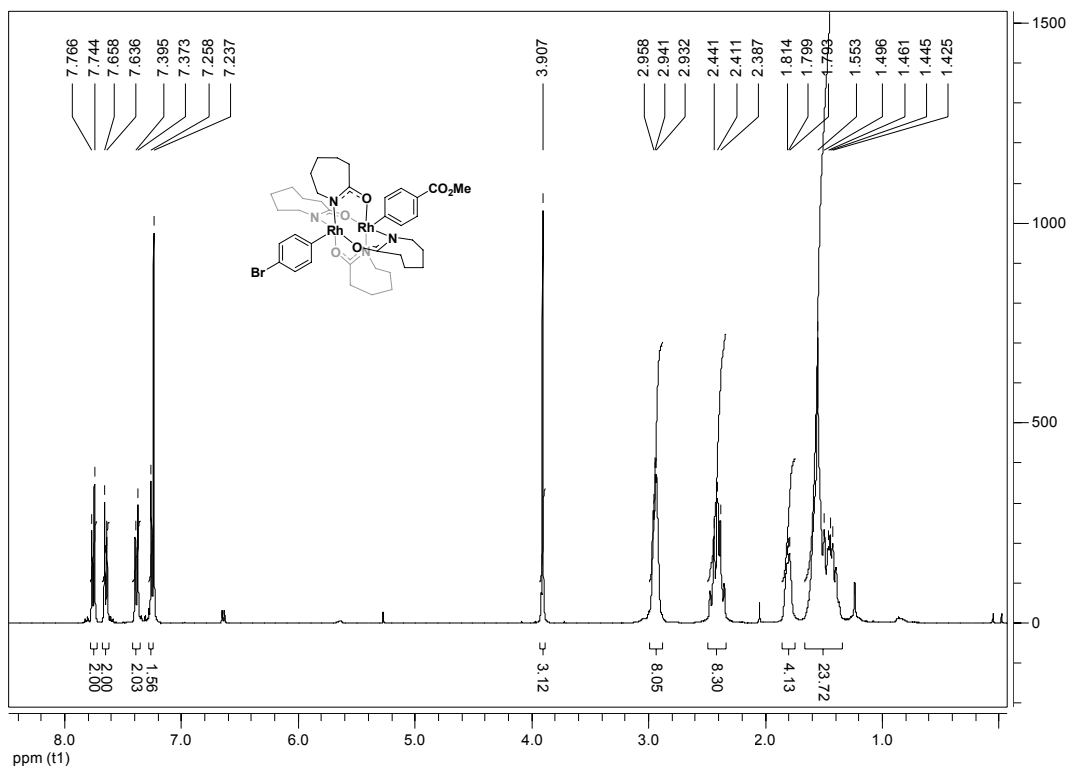
***trans*-{ σ -(4-Phenylphenyl)- σ -(4-methoxycarbonylphenyl)}-*tetrakis*- μ -
(caprolactamato) dirhodium(III) (1c).**



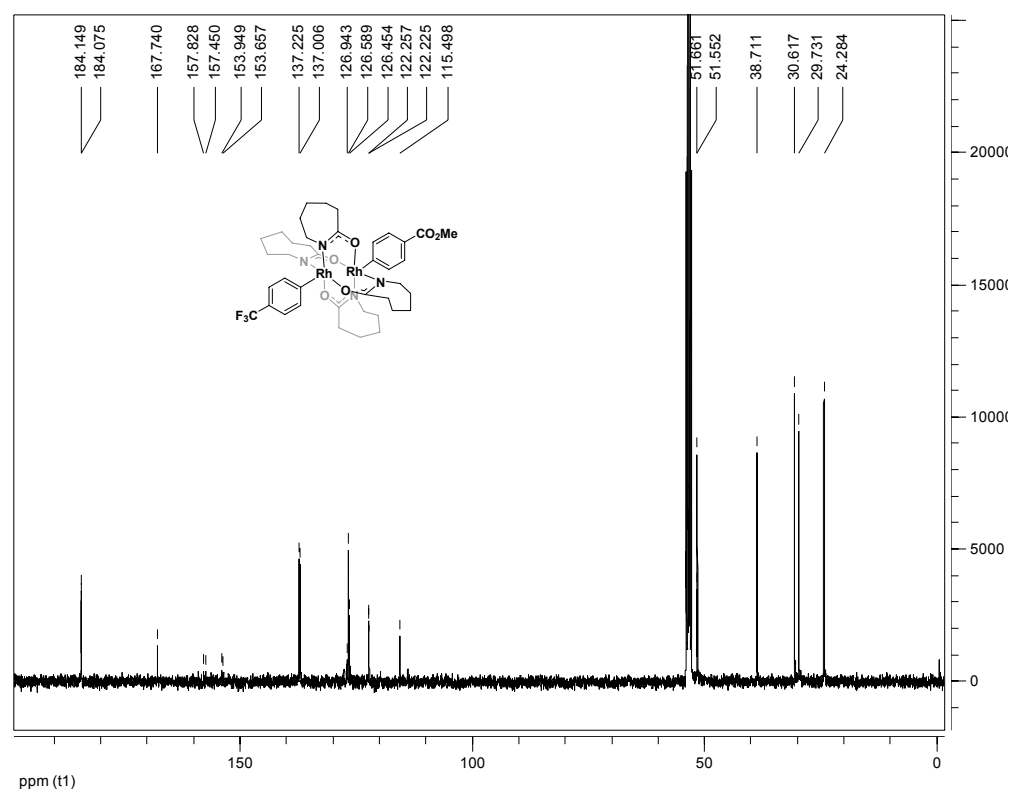
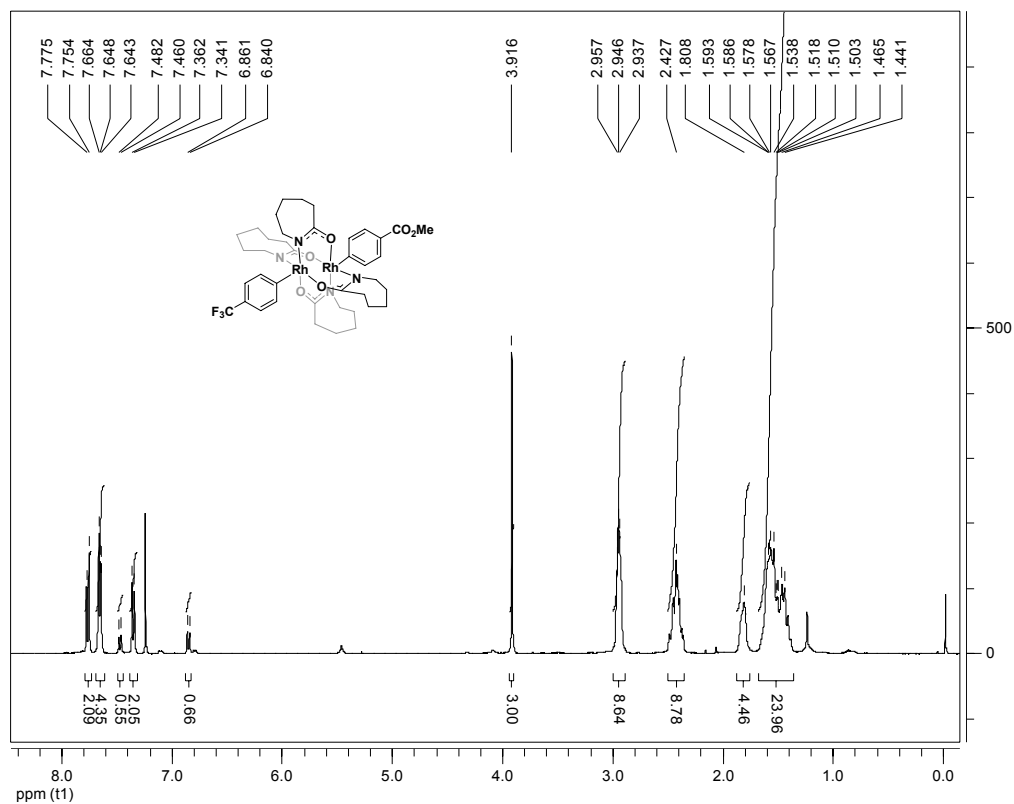
trans-{ σ -(6-Methoxynaphthalen-2-yl)- σ -(4-methoxycarbonylphenyl)}-*tetrakis*- μ -**(caprolactamato) dirhodium(III) (1d).**

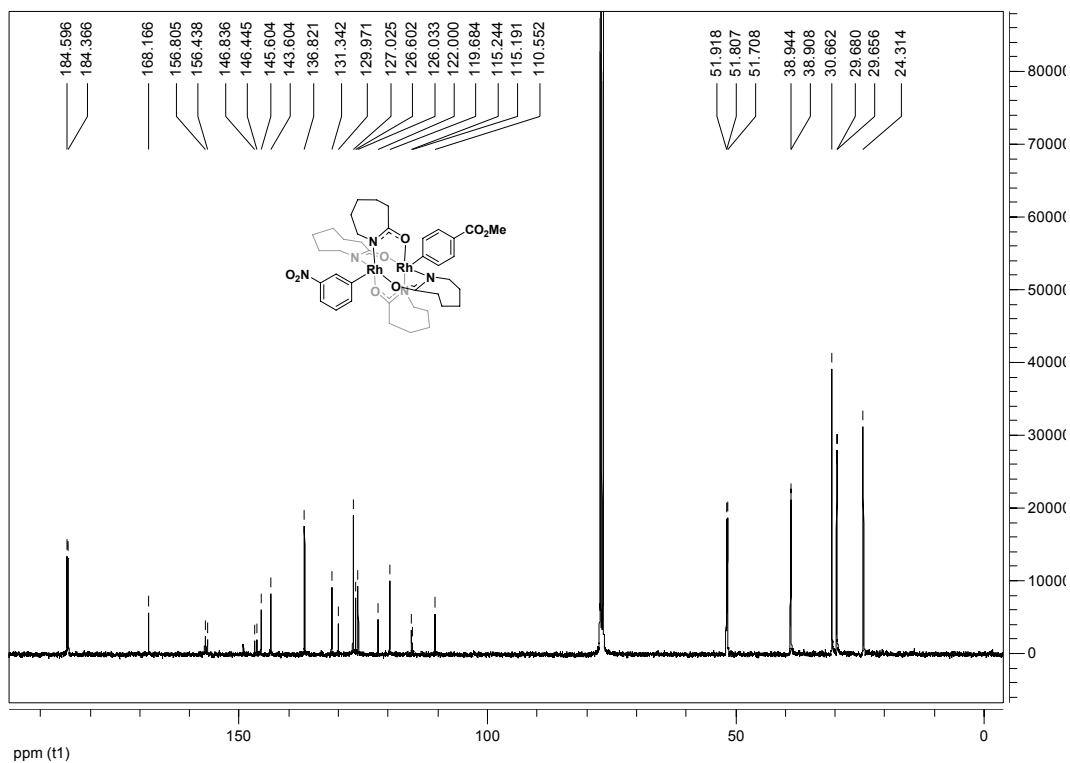
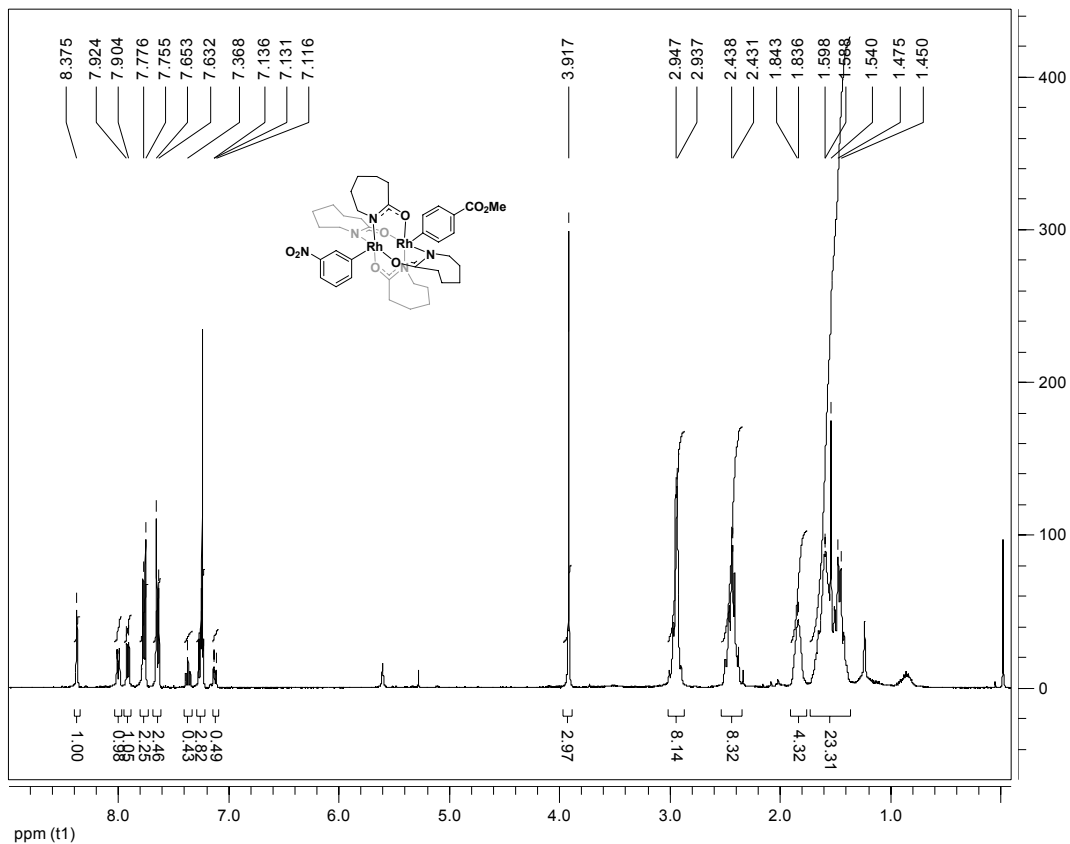


***trans*-{ σ -(4-Bromophenyl)- σ -(4-methoxycarbonylphenyl)}-*tetrakis*- μ -
(caprolactamato) dirhodium(III) (1e).**

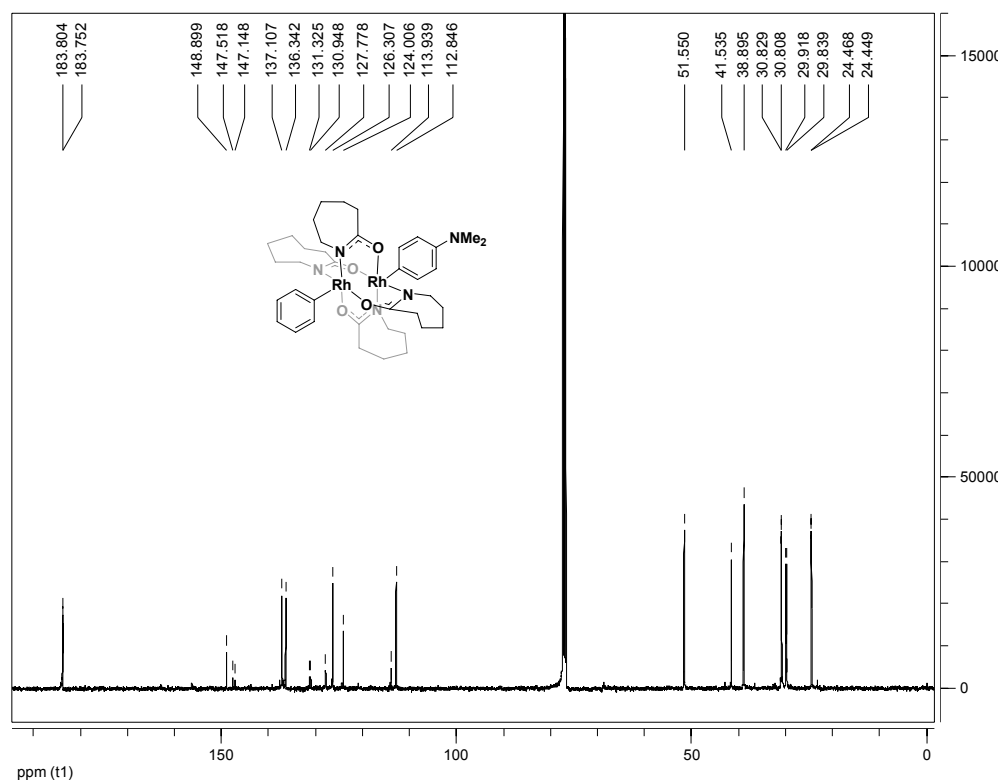
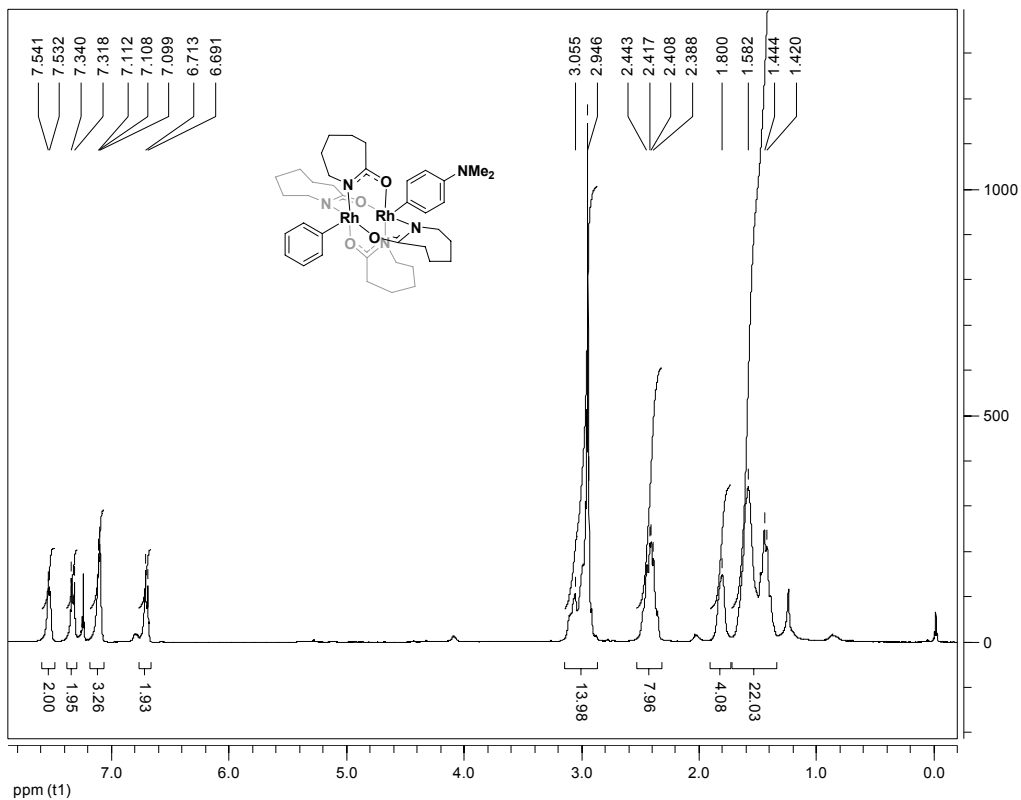


***trans*-{ σ -(4-Trifluoromethylphenyl)- σ -(4-methoxycarbonylphenyl)}-tetrakis- μ -
(caprolactamato) dirhodium(III) (1g).**



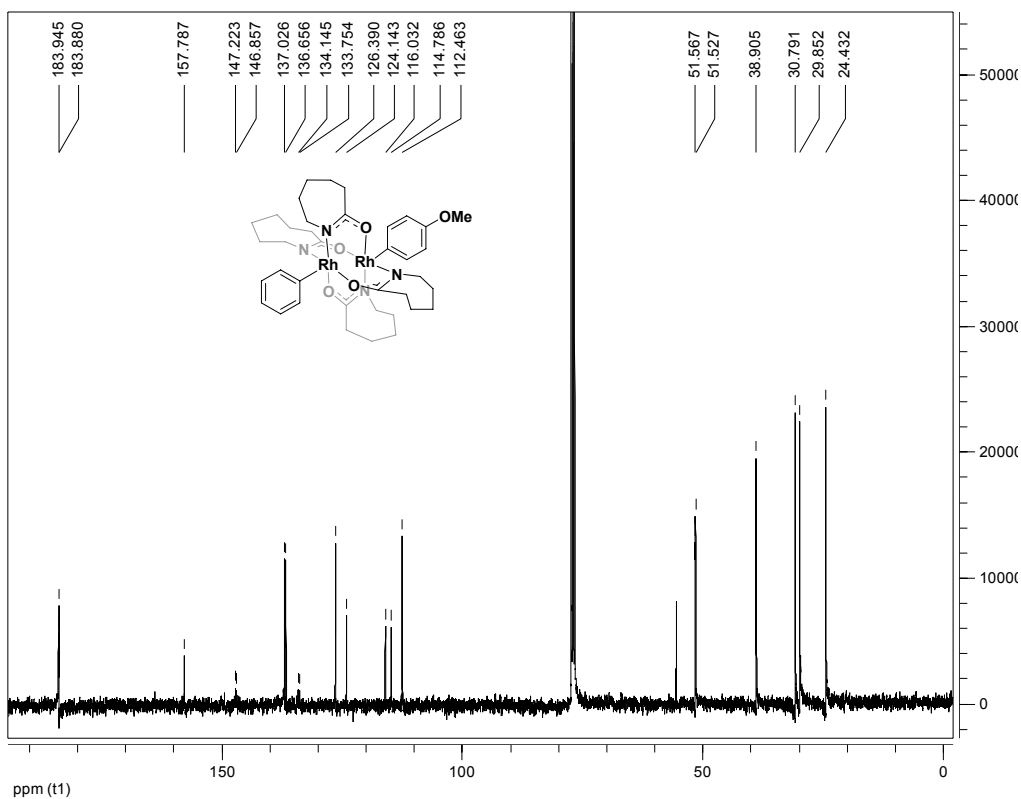
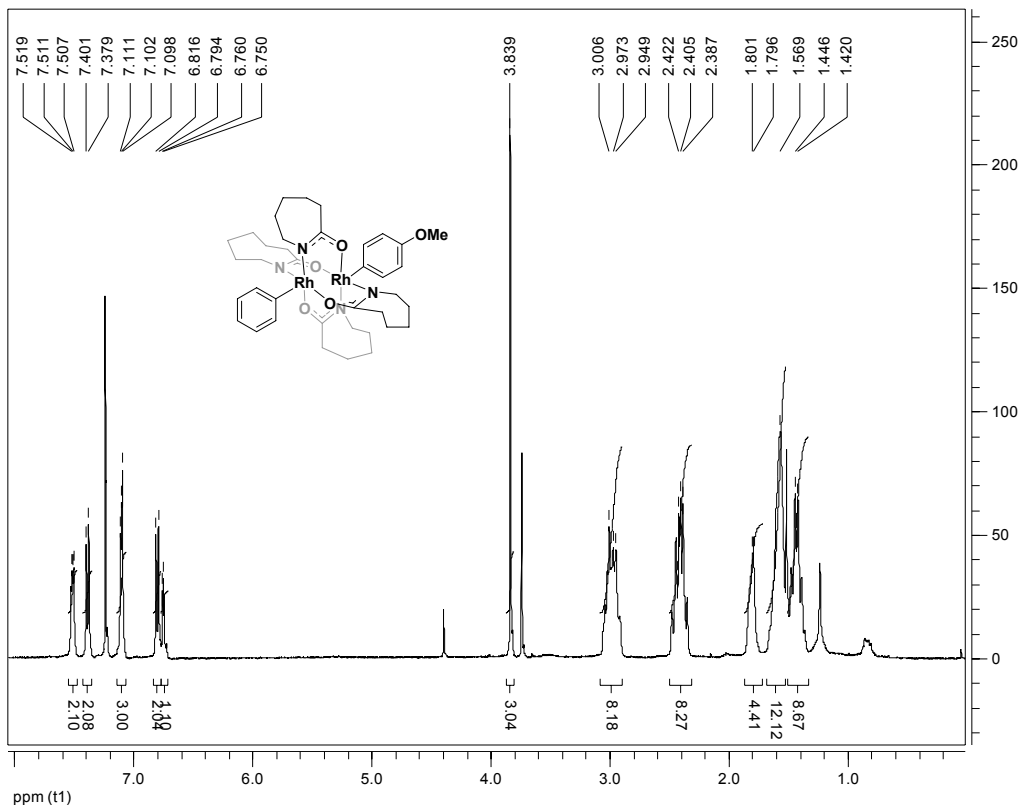
***trans*-{ σ -(3-Nitrophenyl)- σ -(4-methoxycarbonylphenyl)}-*tetrakis*- μ -(caprolactamato) dirhodium(III) (**1h**).**

***trans*-{ σ -(4-*N,N*-Dimethylaminophenyl)- σ -phenyl}-*tetrakis*- μ -(caprolactamato)dirhodium(III) (1i).**

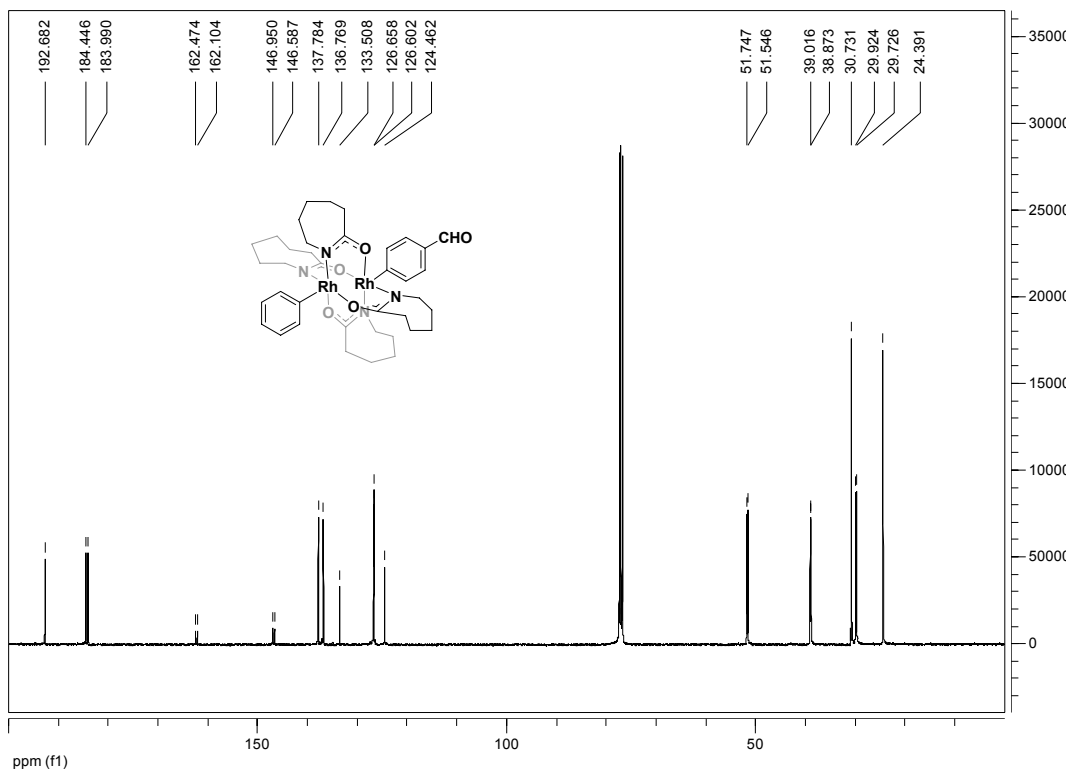
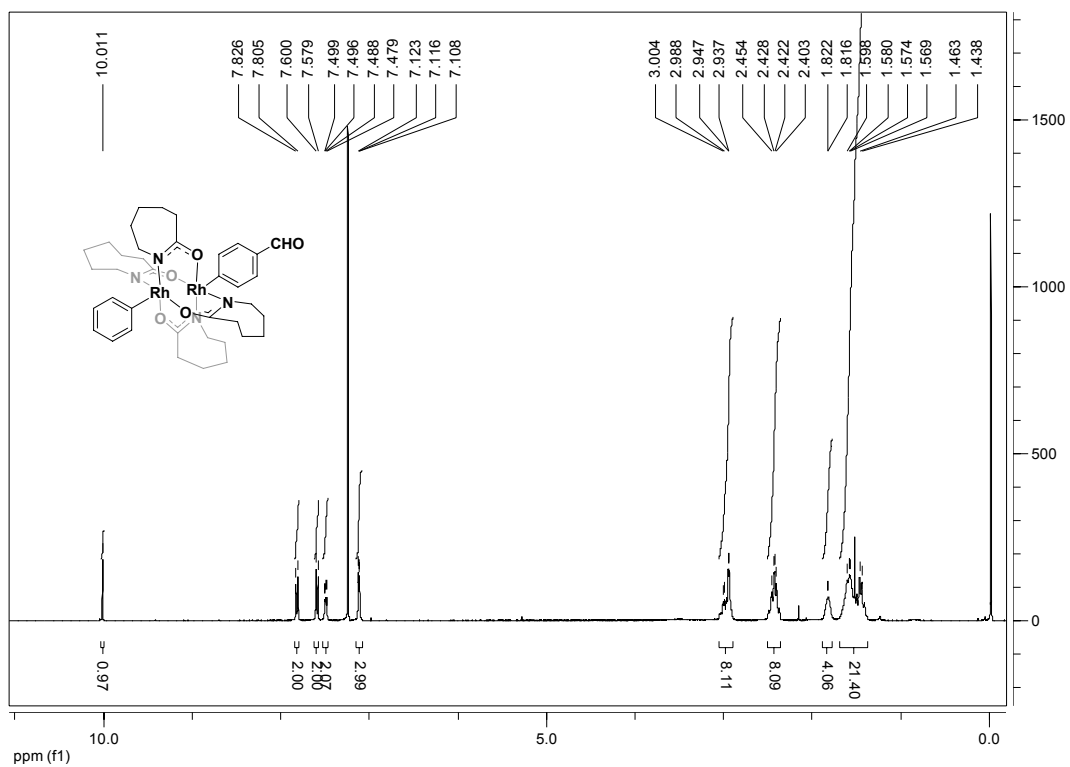


***trans*-{ σ -(4-Methoxyphenyl)- σ -phenyl}-*tetrakis*- μ -(caprolactamato) dirhodium(III)**

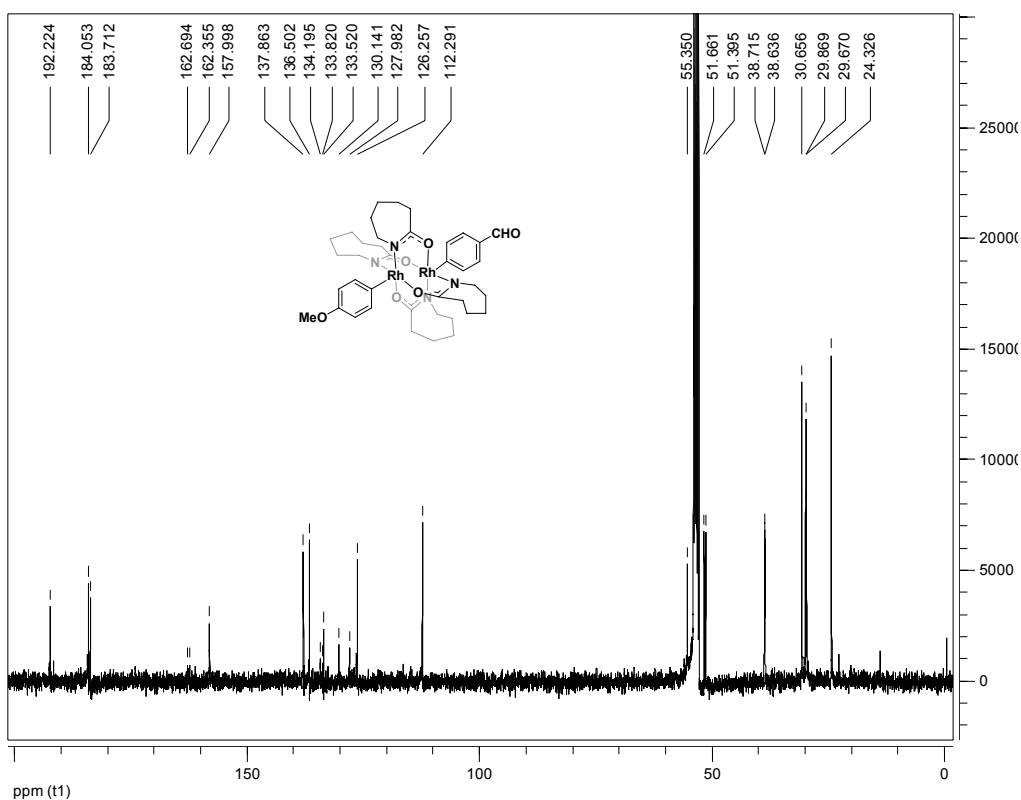
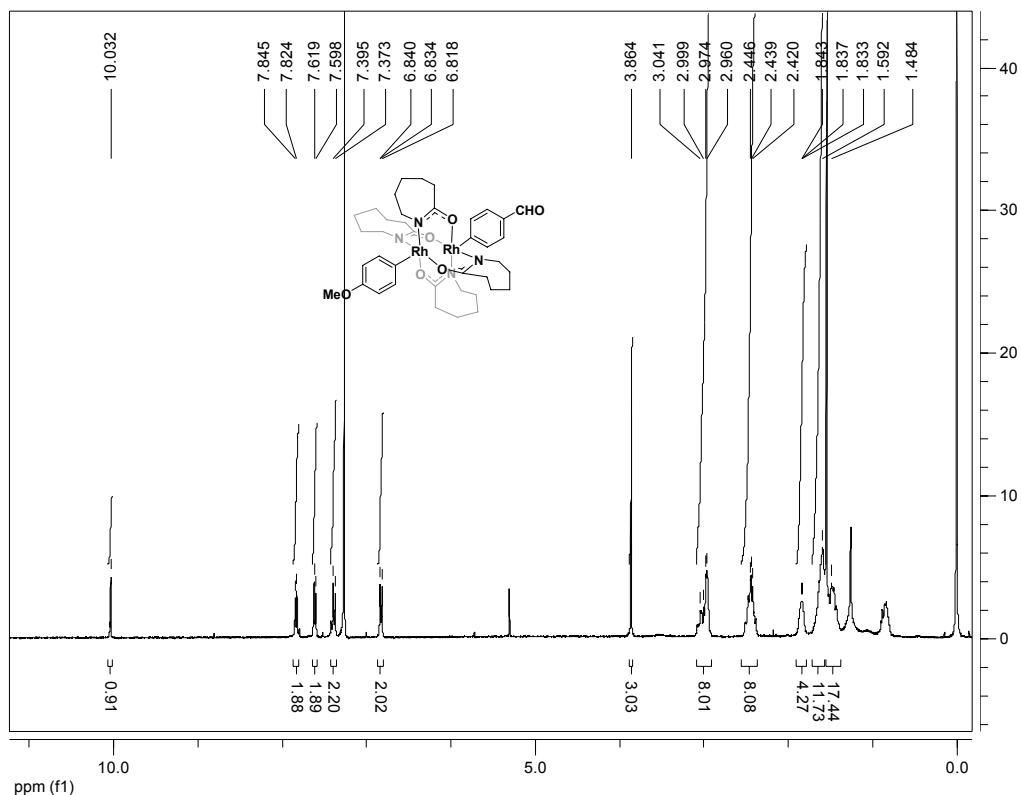
(1j).



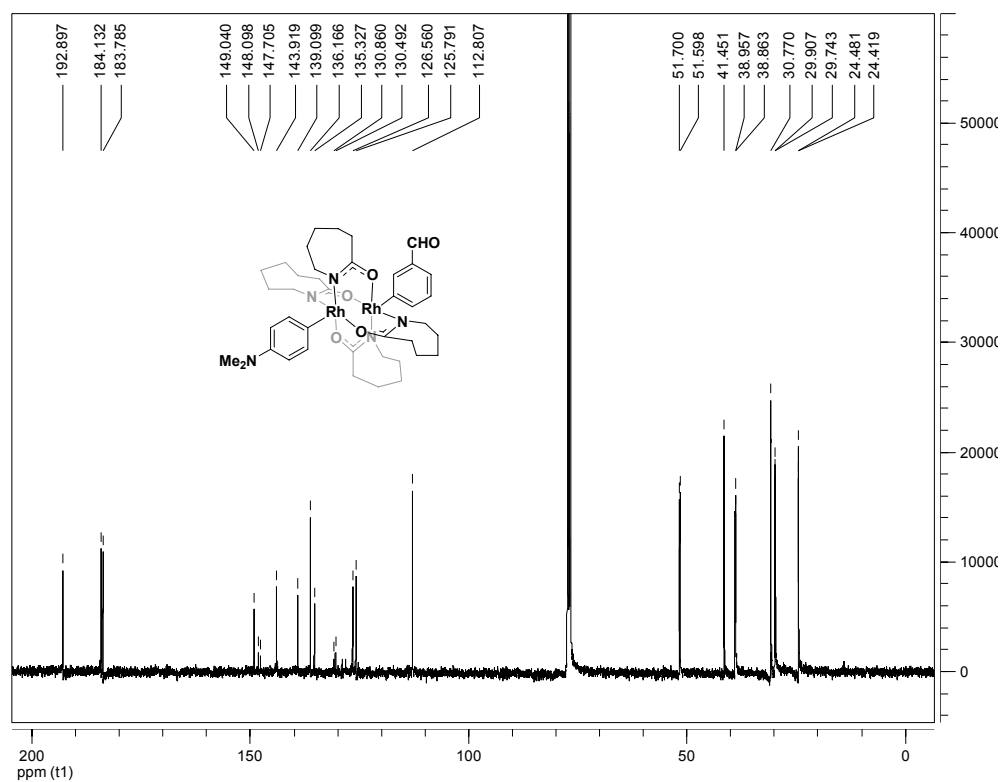
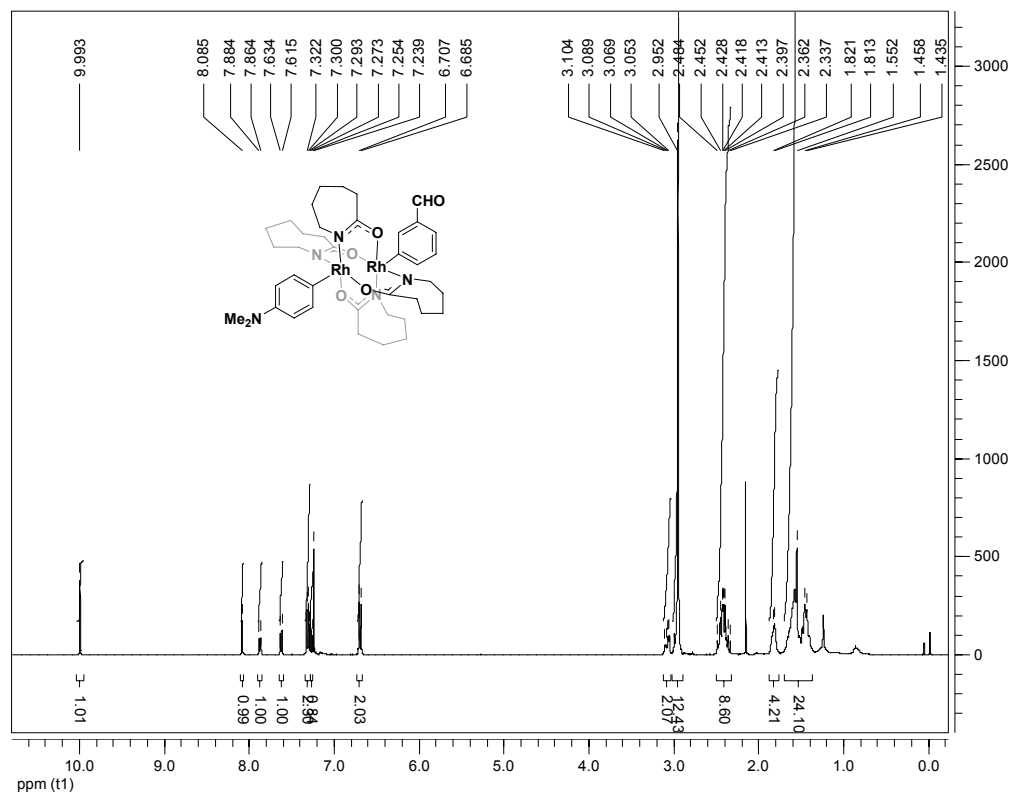
***trans*-{ σ -(4-Formylphenyl)- σ -phenyl}-*tetrakis*- μ -(caprolactamato)dirhodium(III) (1k).**



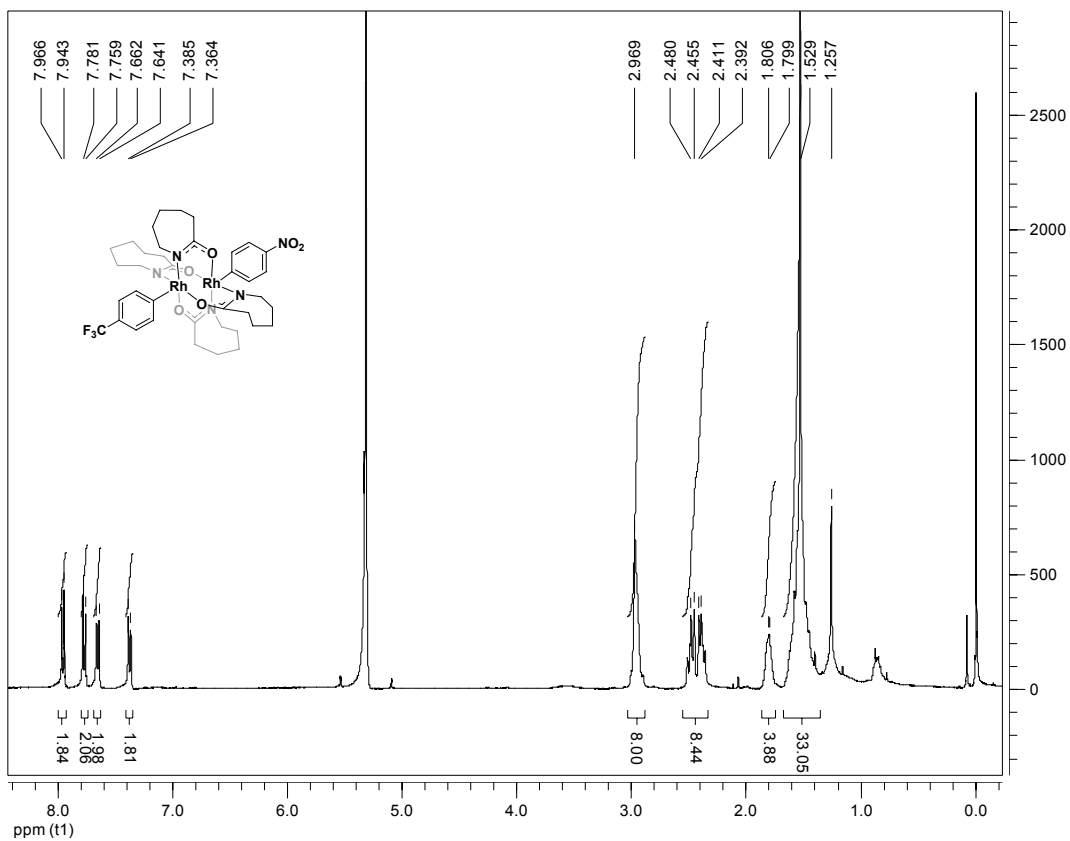
***trans*-{ σ -(4-Methoxyphenyl)- σ -(4-formylphenyl)}-*tetrakis*- μ -(caprolactamato) dirhodium(III) caprolactamate (11).**



***trans*-{ σ -(4-*N,N*-Dimethylaminophenyl)- σ -(3-formylphenyl)}-*tetrakis*- μ -
(caprolactamato) dirhodium(III) (1m).**

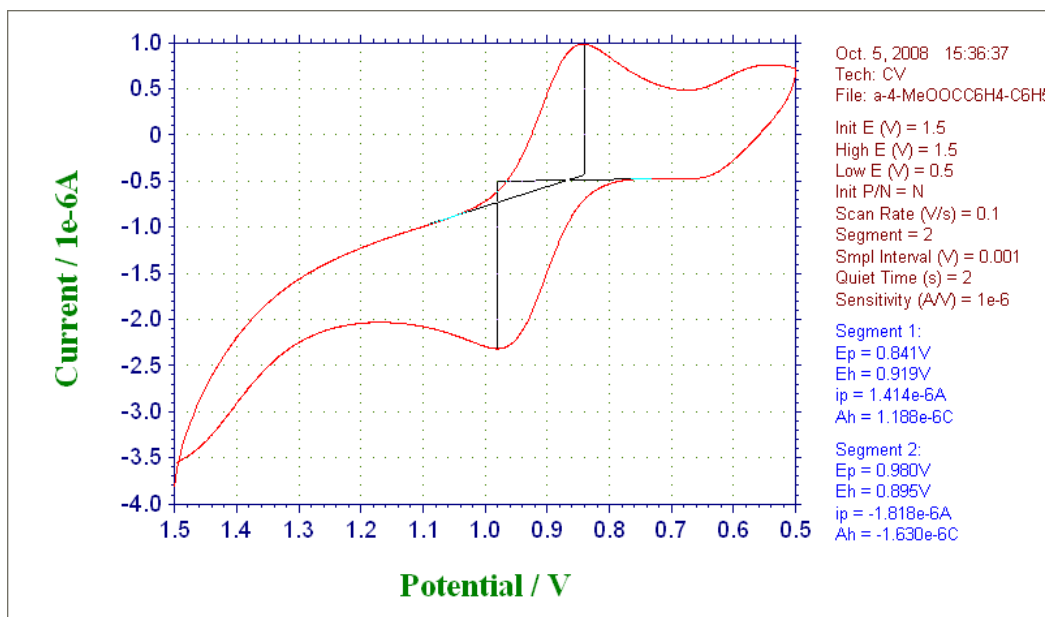


***trans*-(σ -4-Trifluoromethylphenyl- σ -4-nitrophenyl)-*tetrakis*- μ -(caprolactamato)
dirhodium(III) (1n).**

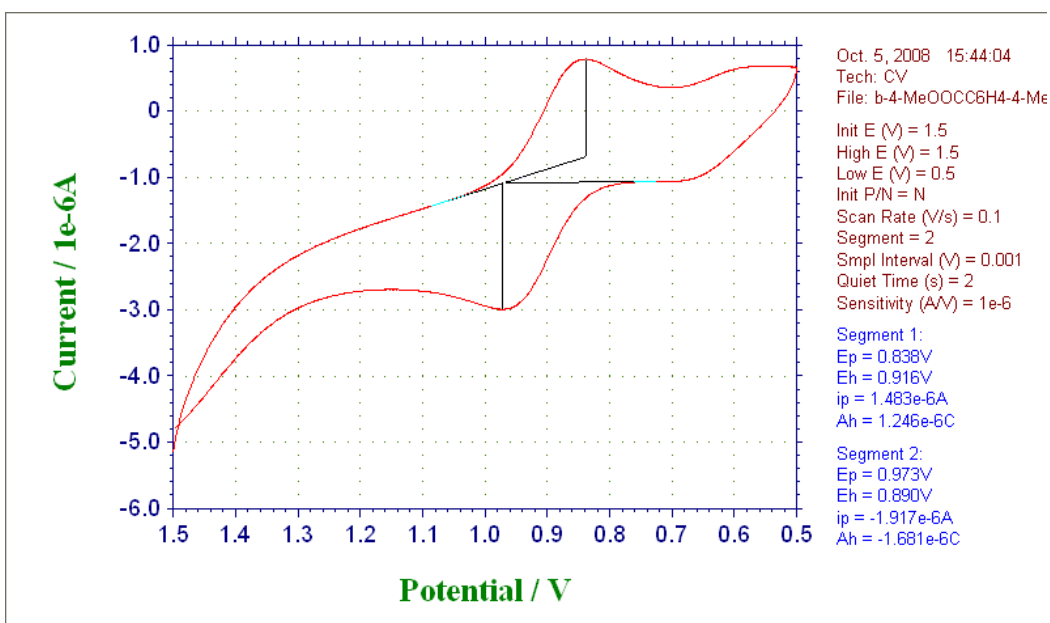


Representative cyclic voltammograms of hetero-bis(σ -aryl)dirhodium(III) caprolactamates (1)

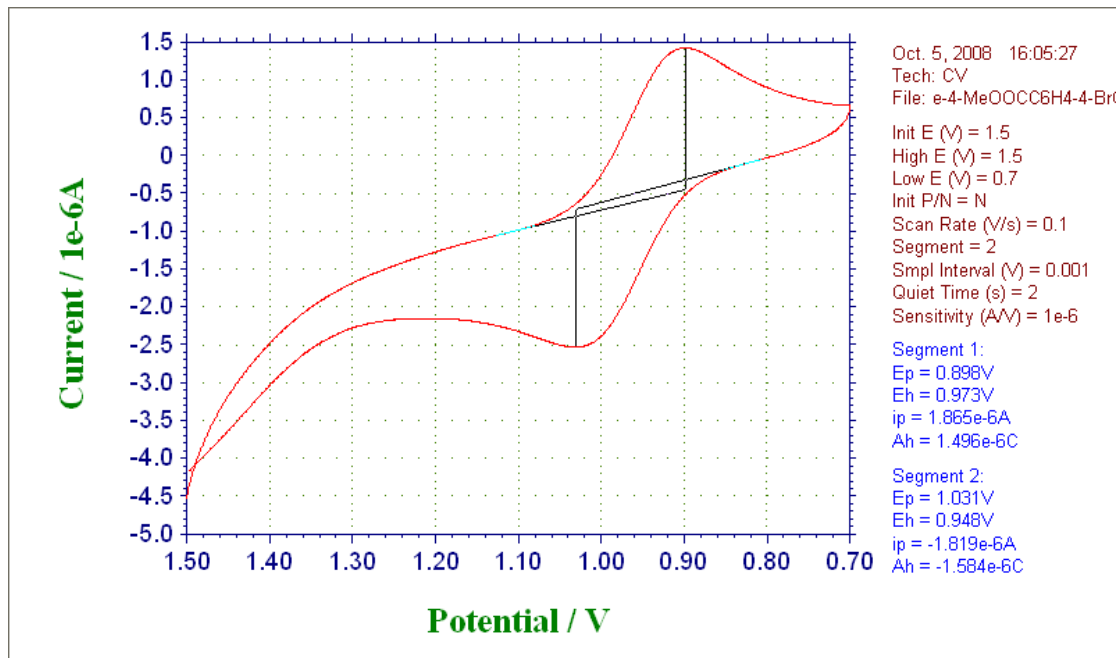
***trans*-{ σ -Phenyl- σ -(4-methoxycarbonylphenyl)}-tetrakis- μ -(caprolactamato) dirhodium(III) (1a).**



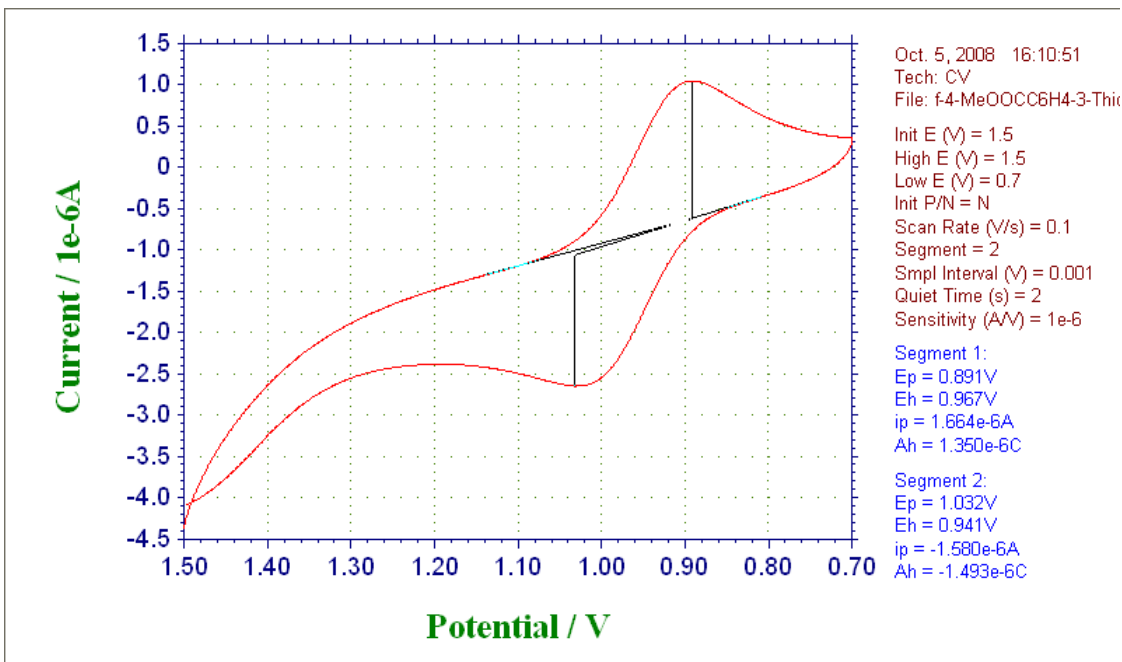
***trans*-{ σ -(4-Methylphenyl)- σ -(4-methoxycarbonylphenyl)}-tetrakis- μ -(caprolactamato) dirhodium(III) (1b).**



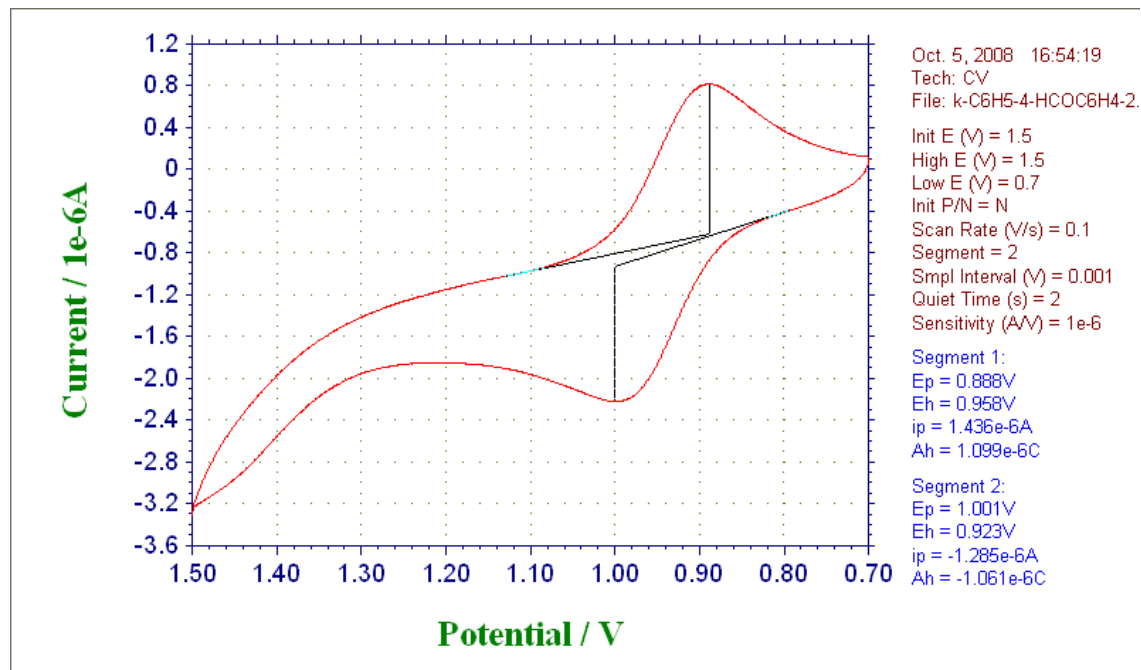
***trans*-{ σ -(4-Bromophenyl)- σ -(4-methoxycarbonylphenyl)}-*tetrakis*- μ -
(caprolactamato) dirhodium(III) (1e).**



***trans*-{ σ -(3-Thienyl)- σ -(4-methoxycarbonylphenyl)}-*tetrakis*- μ -(caprolactamato)
dirhodium(III) (1f).**



***trans*-{ σ -(4-Formylphenyl)- σ -phenyl}-*tetrakis*- μ -(caprolactamato)dirhodium(III)
(1k).**



***trans*-(σ -4-Trifluoromethylphenyl)- σ -4-nitrophenyl)-*tetrakis*- μ -(caprolactamato)
dirhodium(III) (1n).**

