

Supporting Information

for

Synthesis of Ru alkylidene complexes

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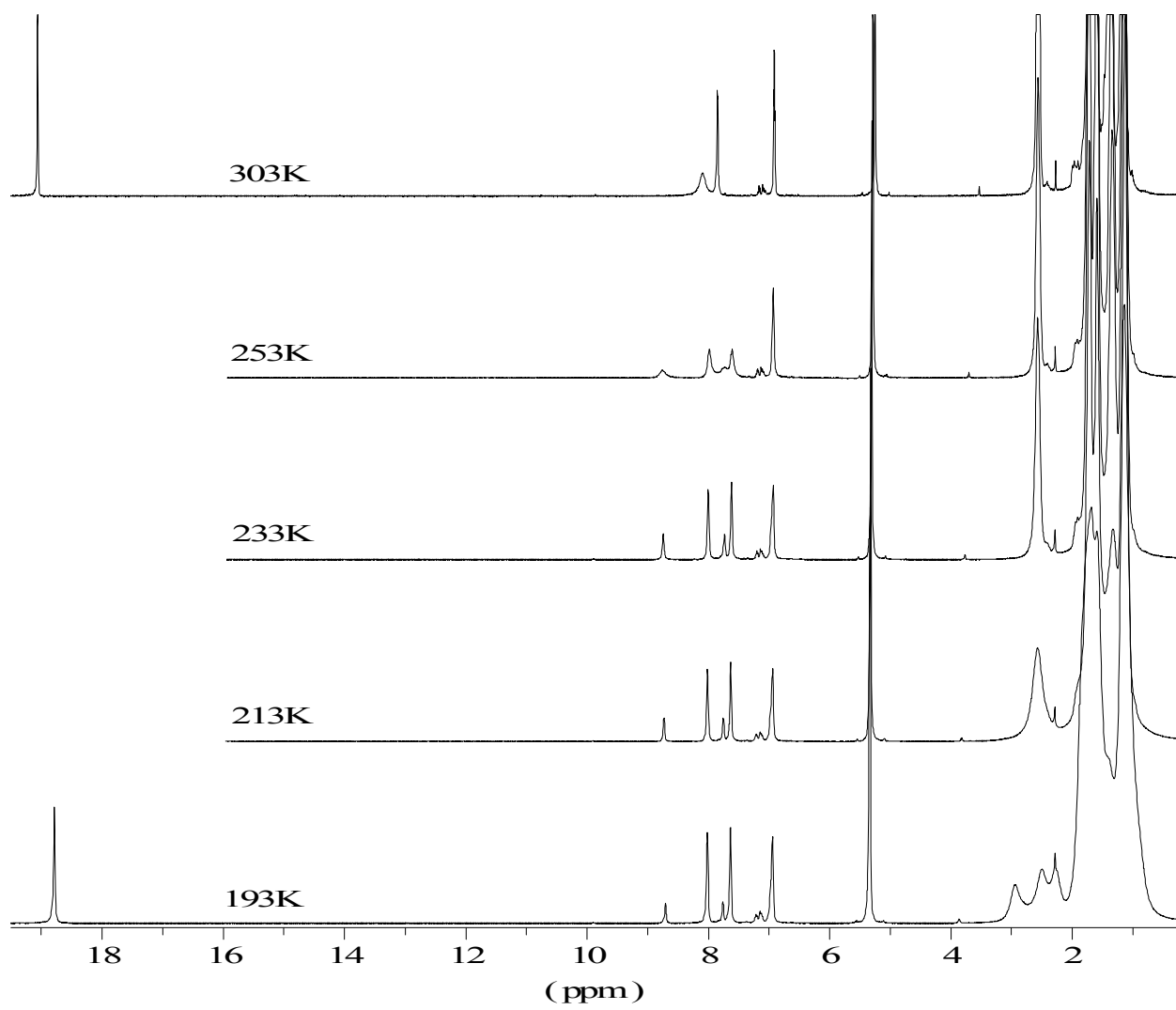
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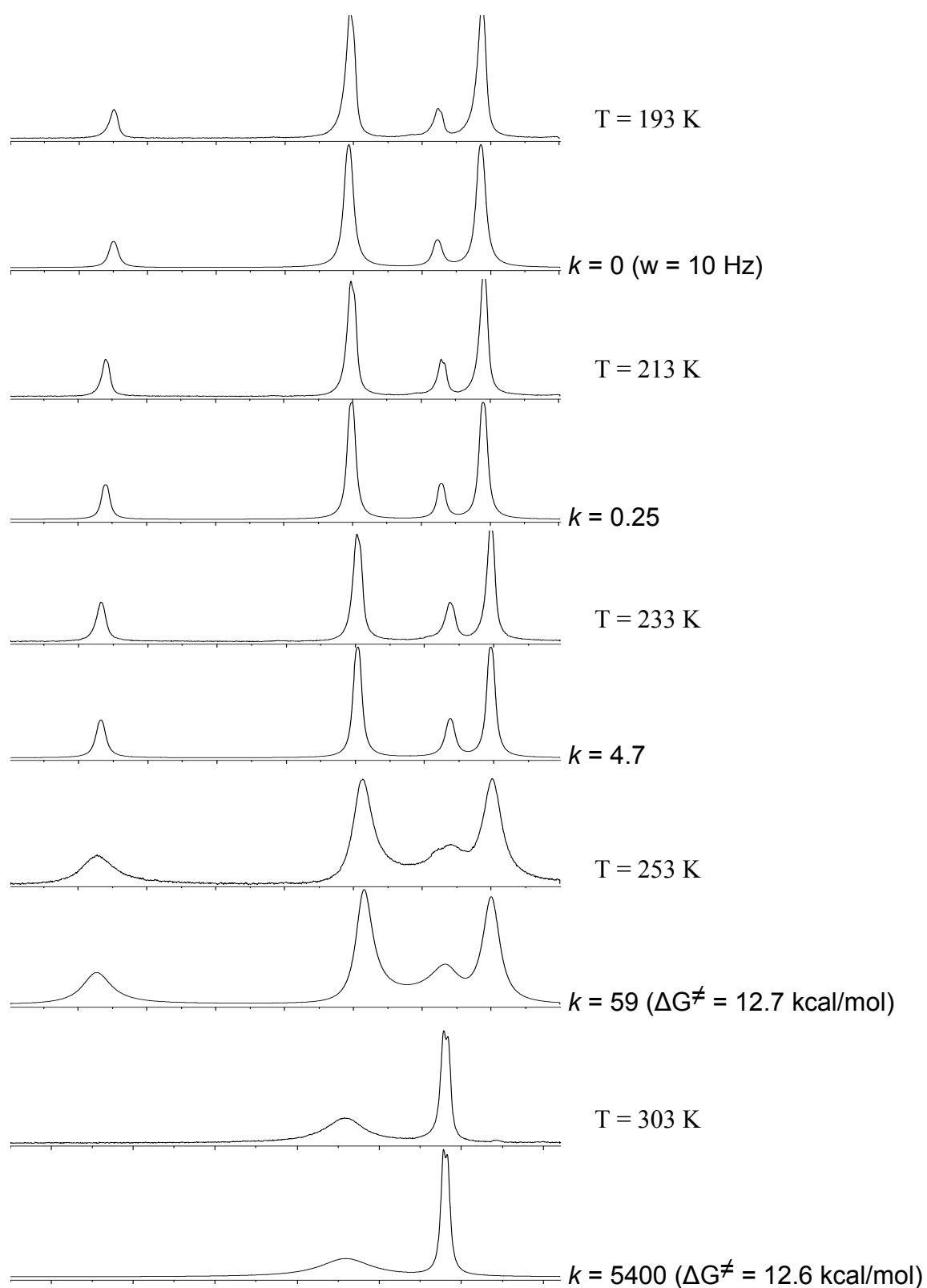
*Corresponding author

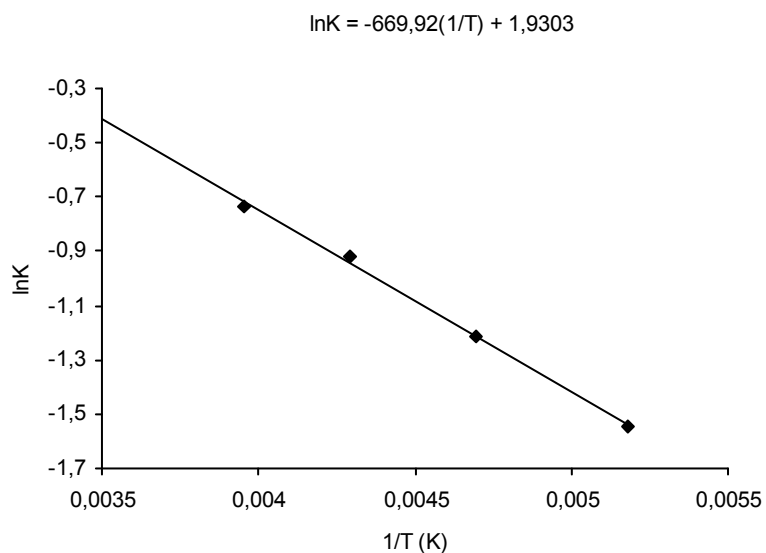
Detailed experimental data

Variable-temperature spectra of the solution of **1e** in CD₂Cl₂.



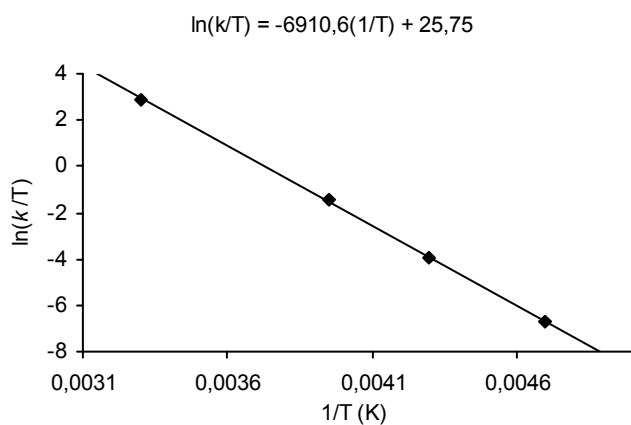
Experimental (top) and calculated (bottom) spectrum parts (7.4-9.0 ppm) for exchanging signals H3', H5, H5' and H3 of the thienyl fragment in **1e**.





$\Delta H = 1.3 \text{ kcal/mol}$

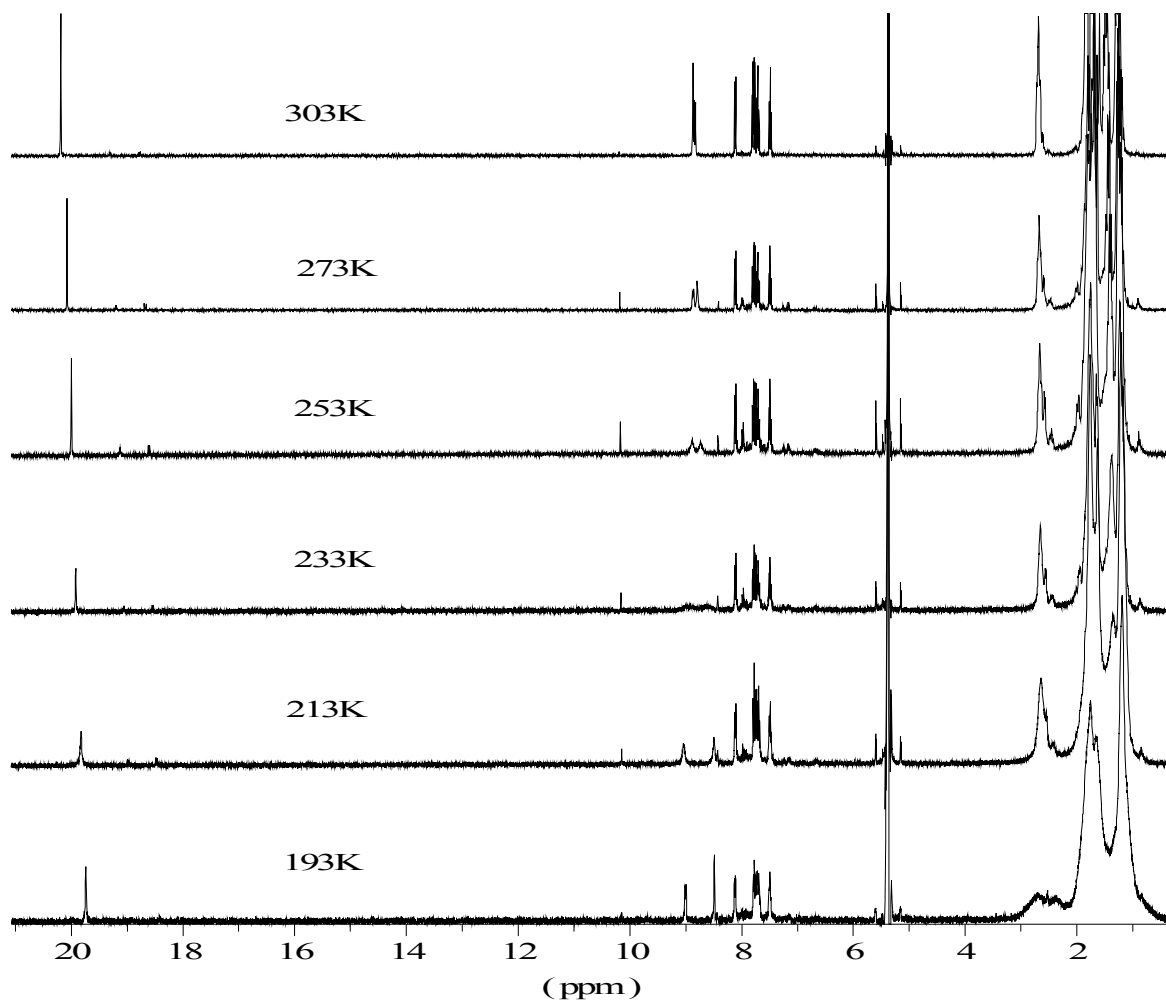
Arrhenius plot for **1e** interconversion based on line-shape analysis.



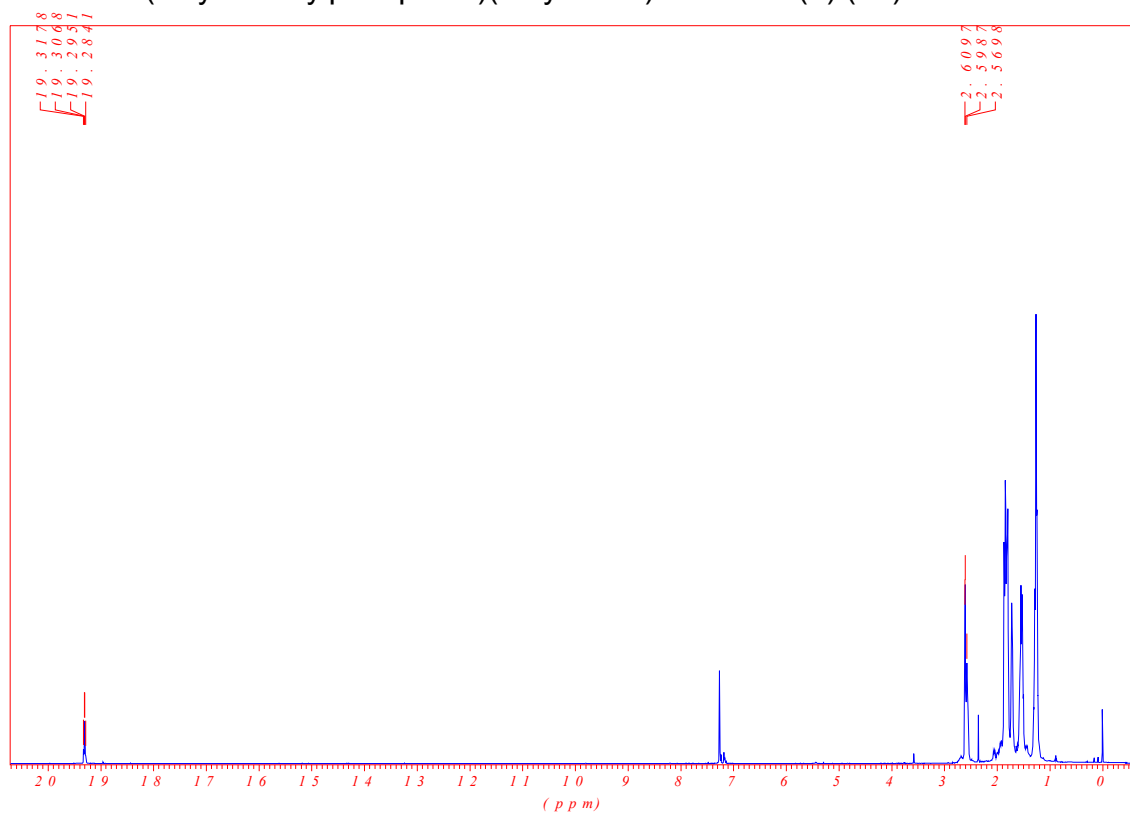
$\Delta H^\ddagger = 13.7 \text{ kcal/mol}$

Eyring plot of the rate constants obtained from line shape analysis for **1e** interconversion.

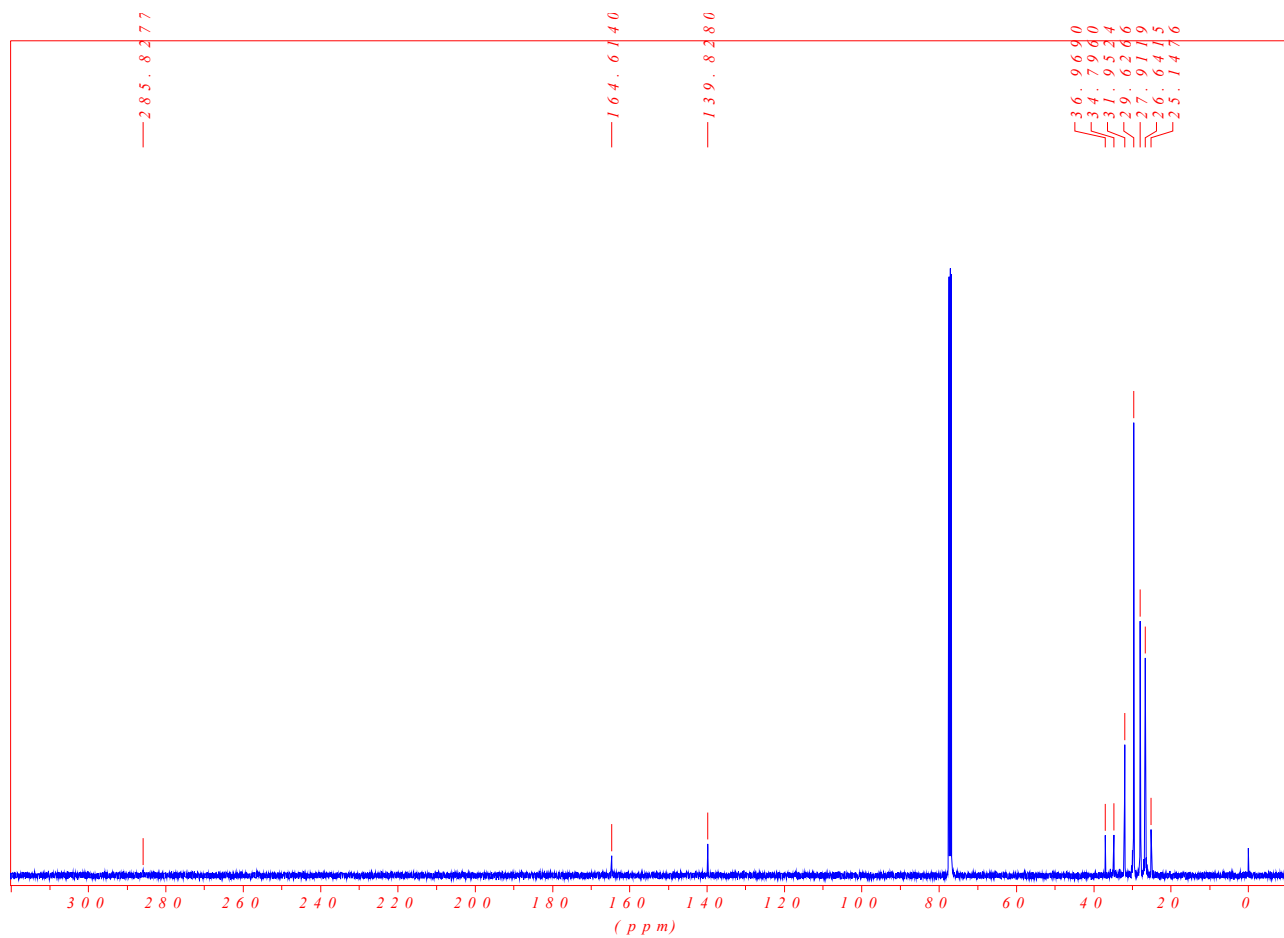
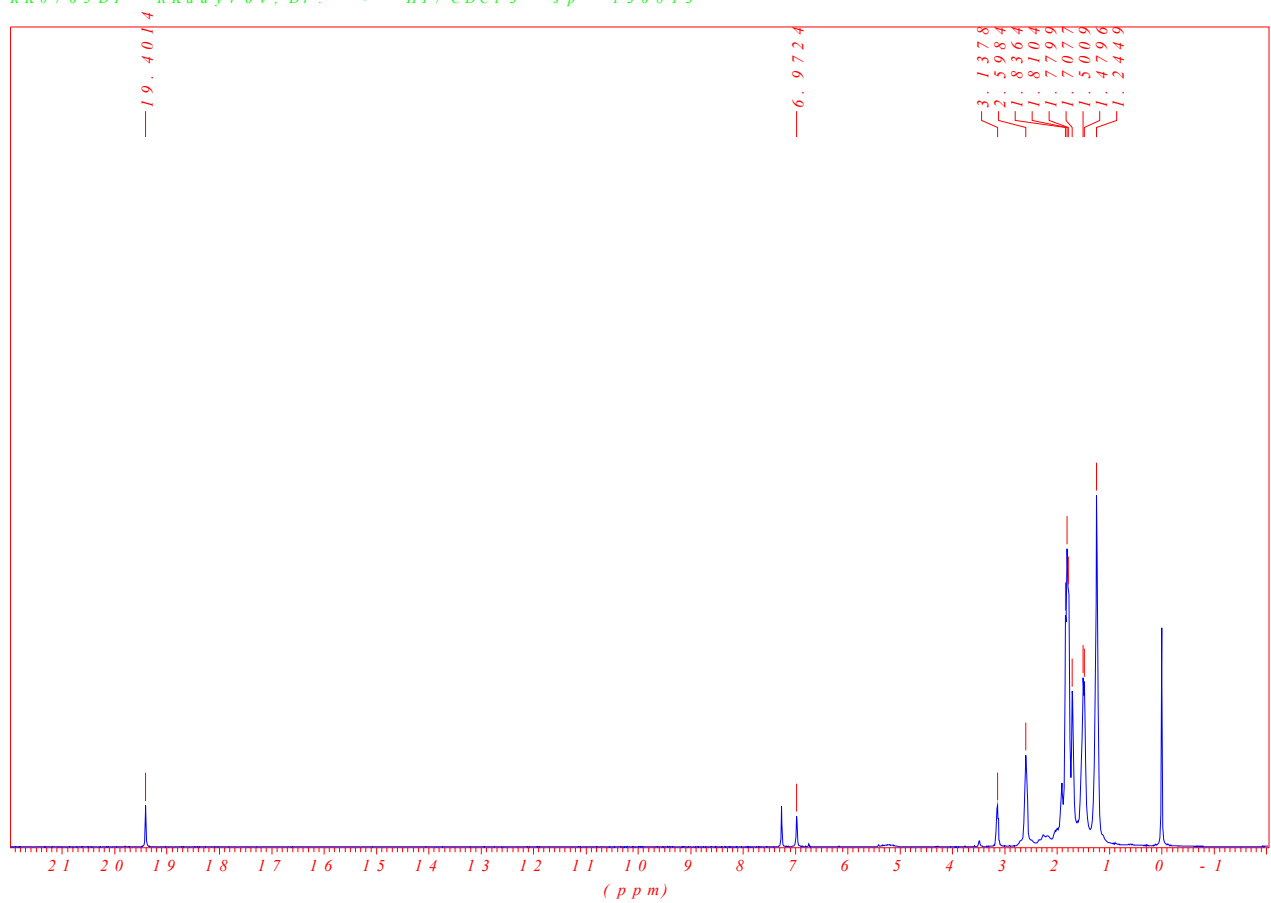
Variable-temperature spectra of the solution of **1g** in CD_2Cl_2 .



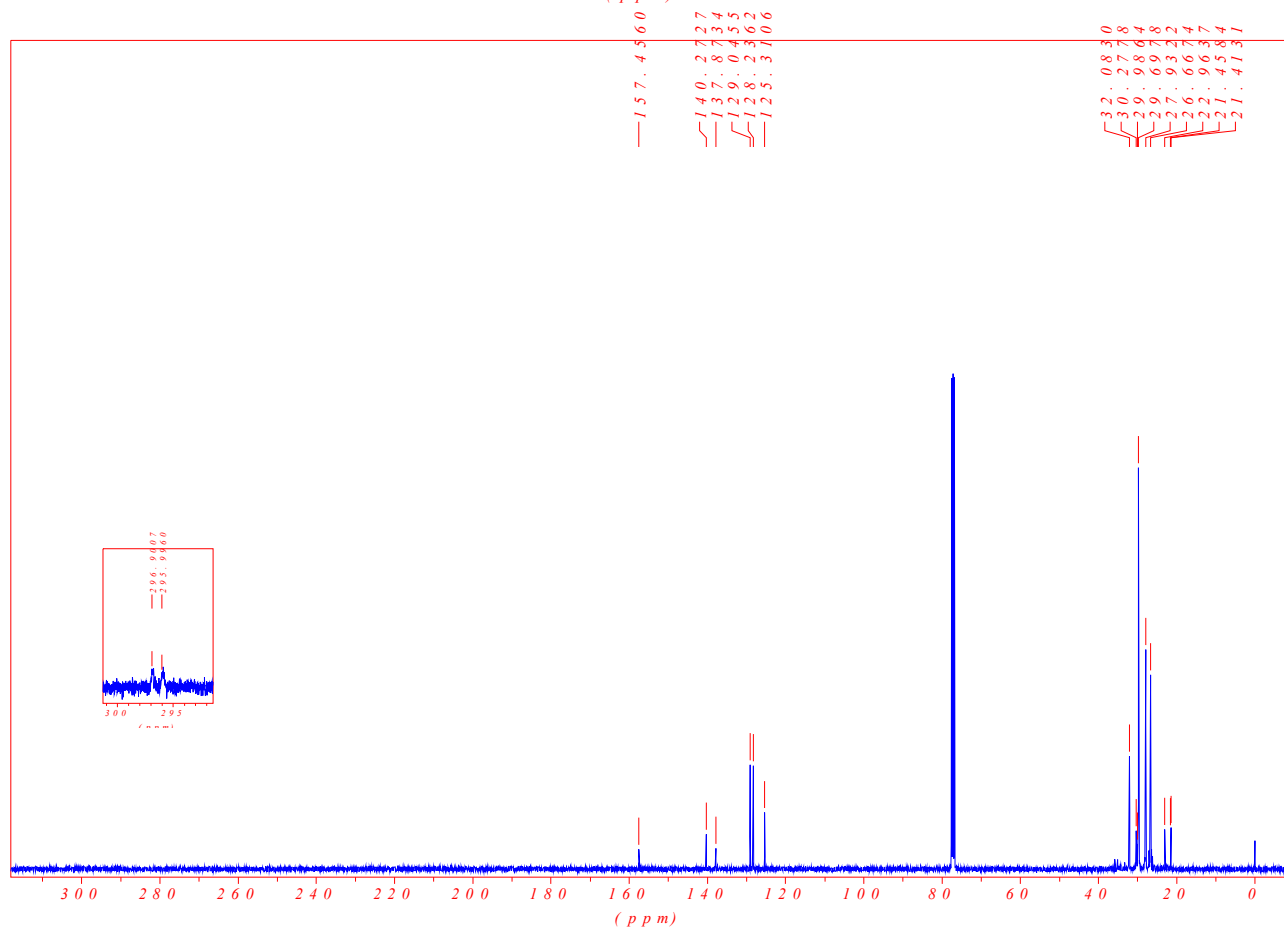
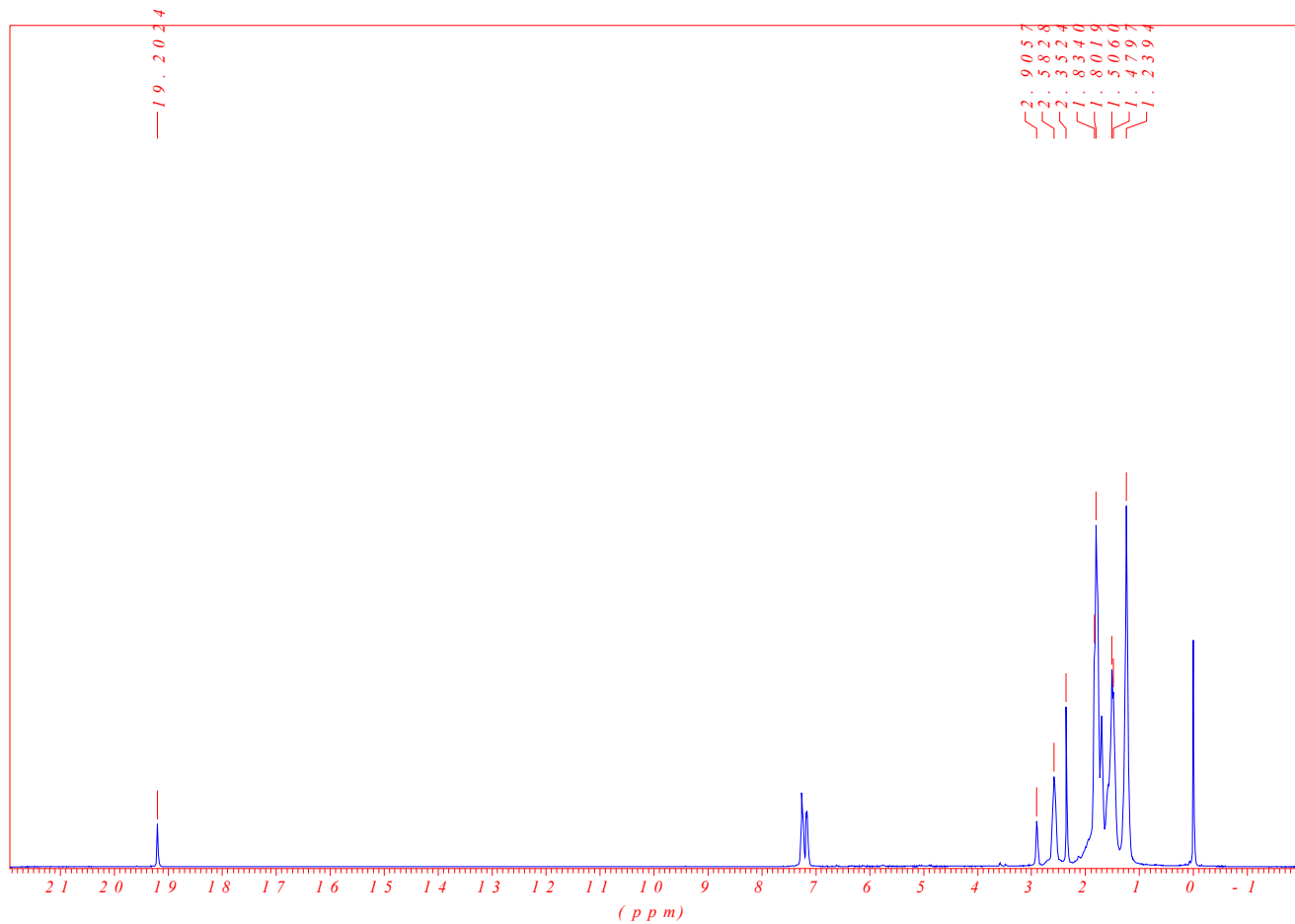
Dichlorobis(tricyclohexylphosphine)(ethylidene)ruthenium(II) (**1a**):



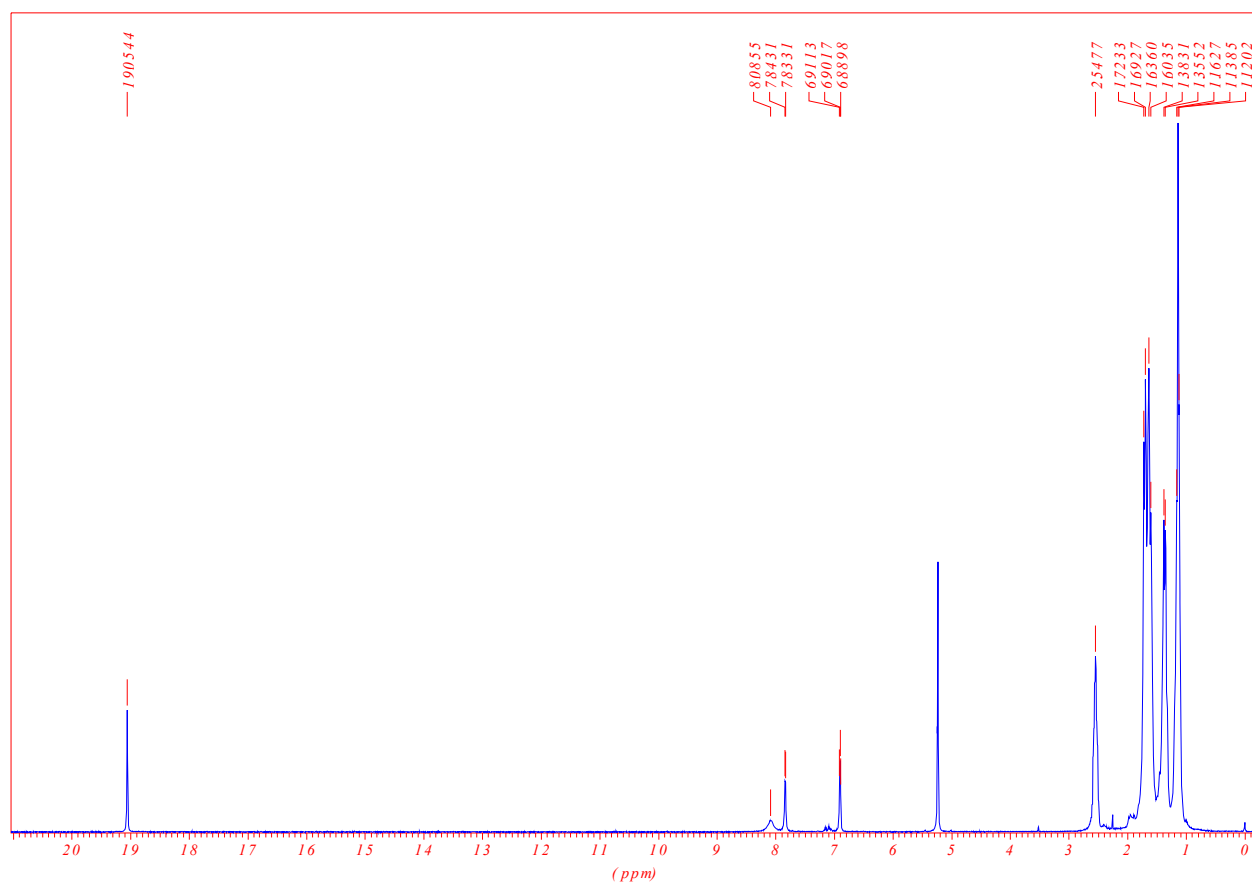
Dichlorobis(tricyclohexylphosphine)(cyclopenten-1-ylmethylidene)ruthenium(II) (**1b**):



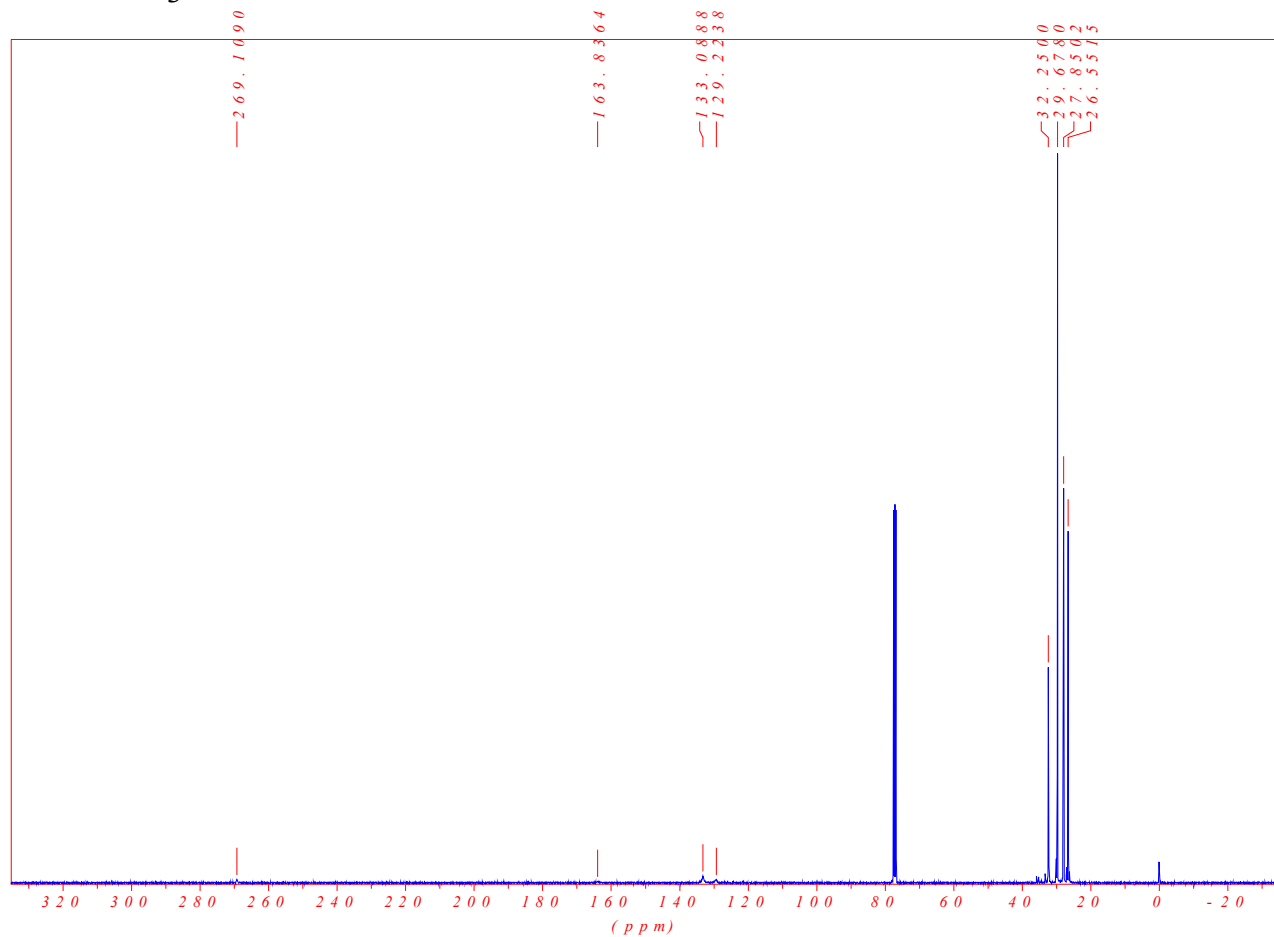
Dichlorobis(tricyclohexylphosphine)(cyclohexen-1-ylmethylidene)ruthenium(II)-toluene adduct (1c-toluene):



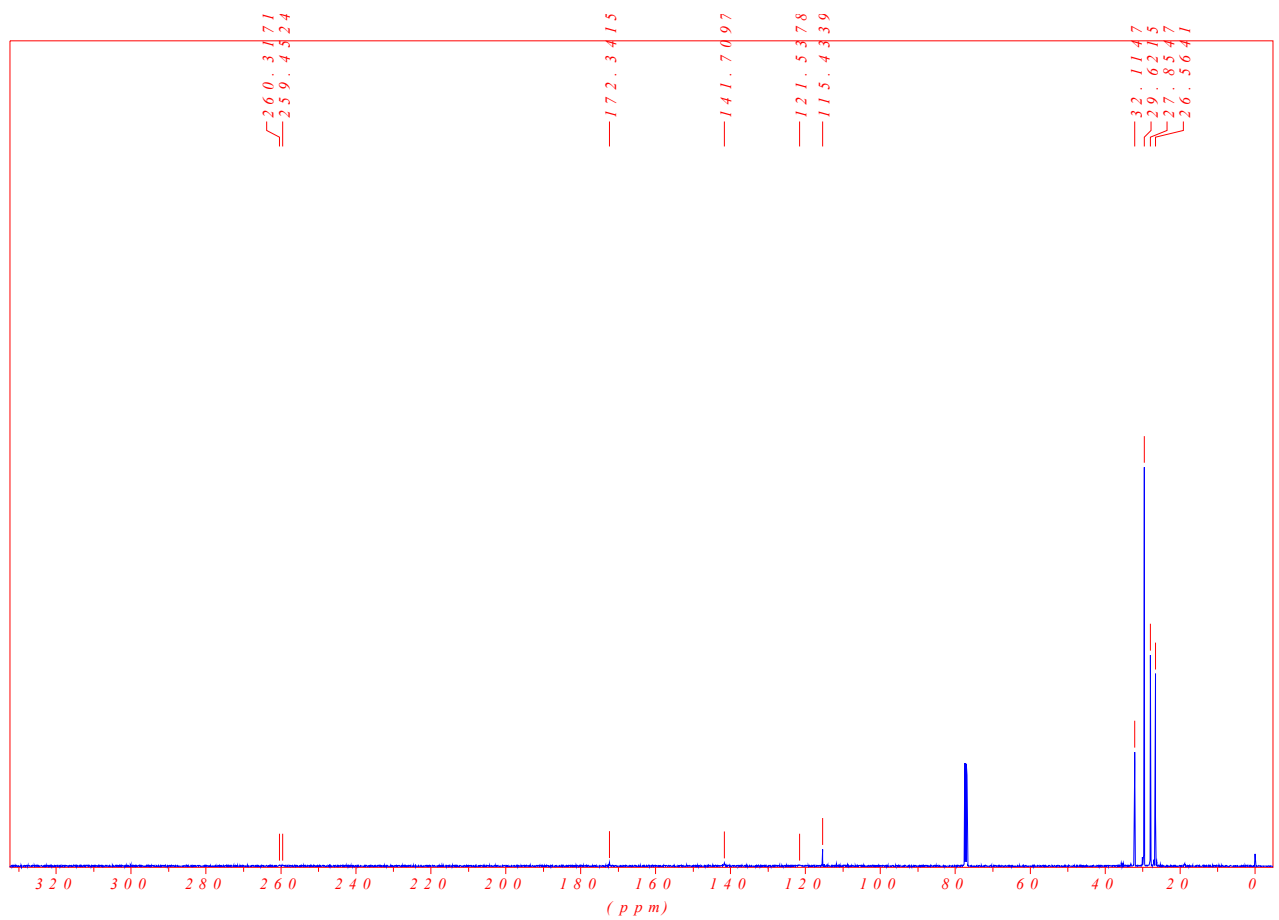
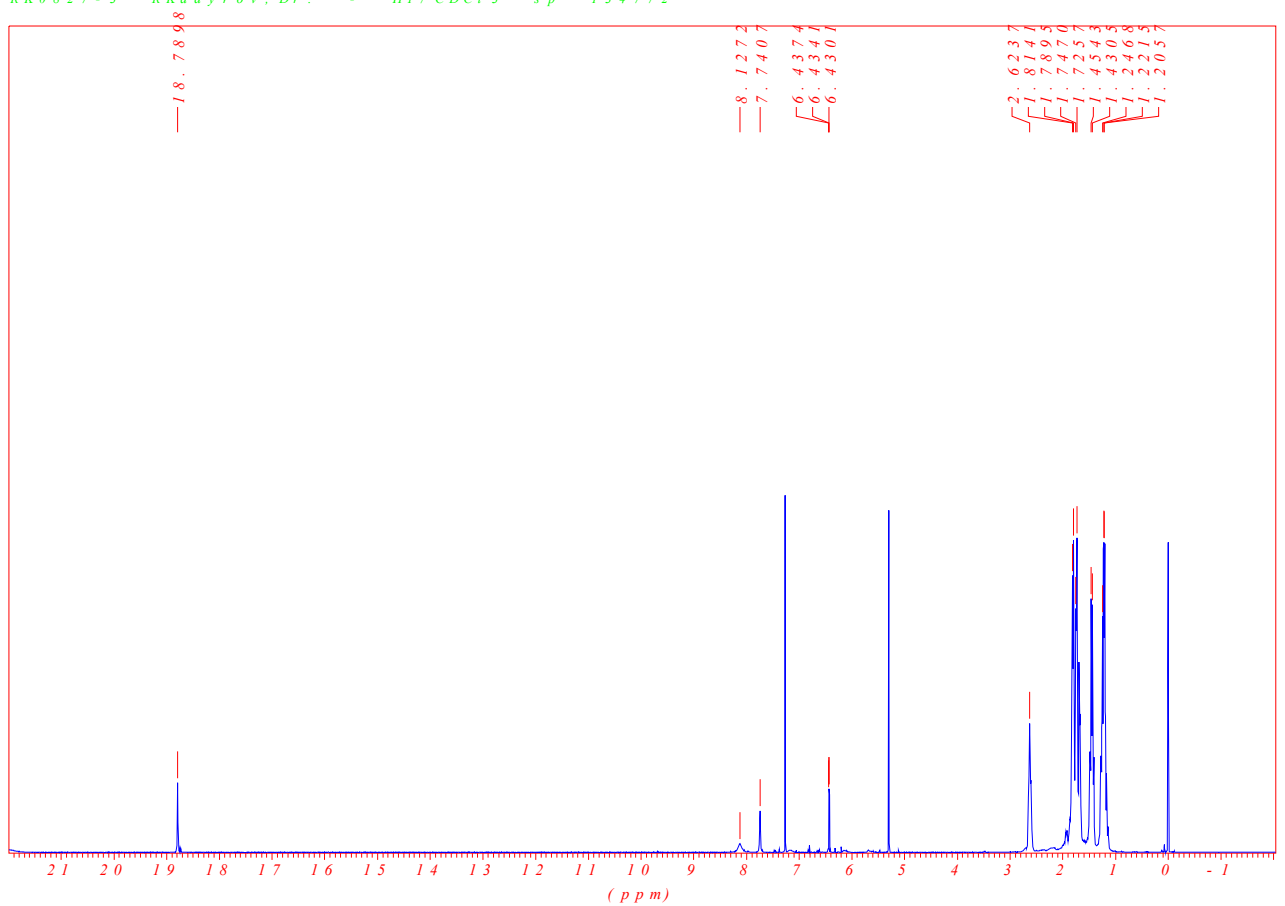
Dichlorobis(tricyclohexylphosphine)(thien-2-ylmethylidene)ruthenium(II) (**1e**):
1H in CD₂Cl₂



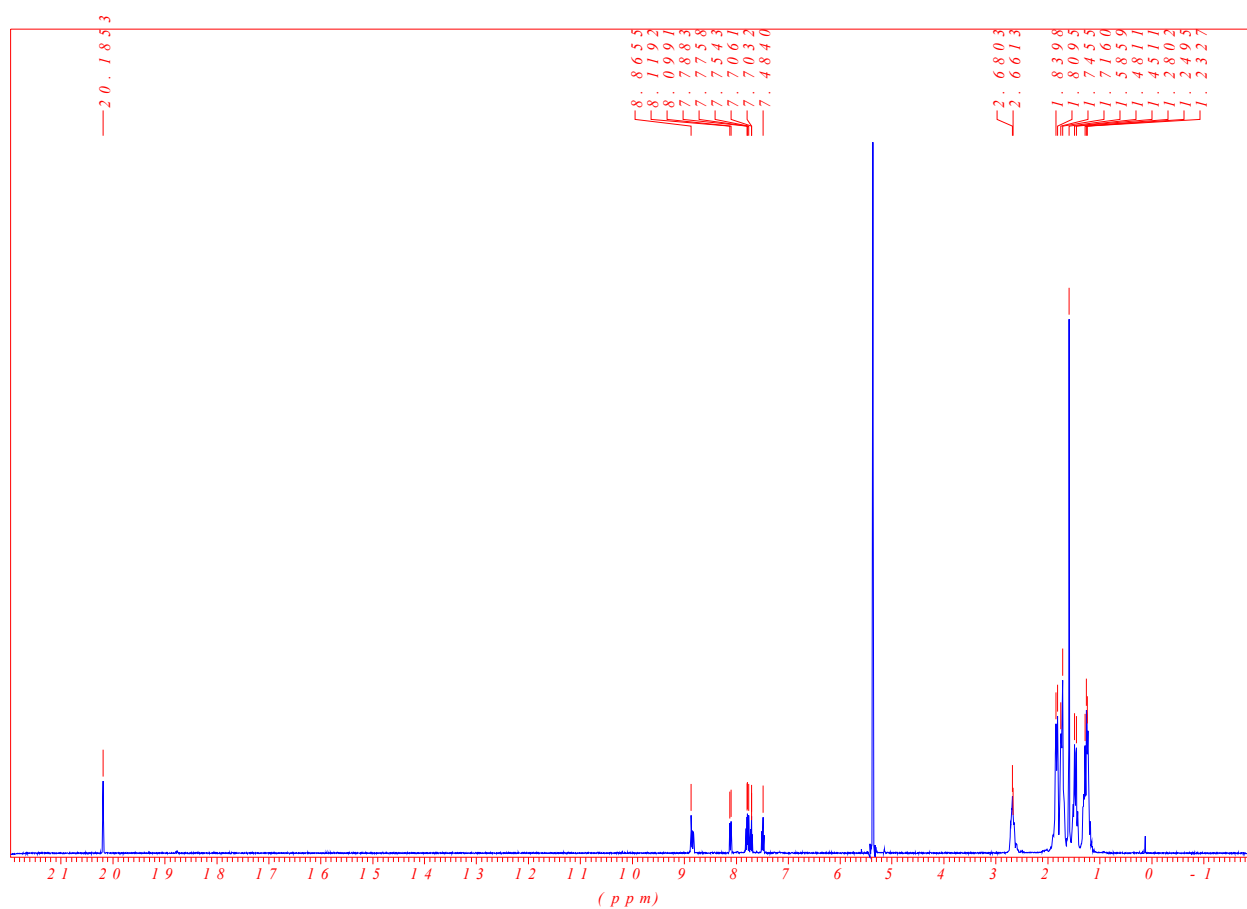
13C in CDCl₃



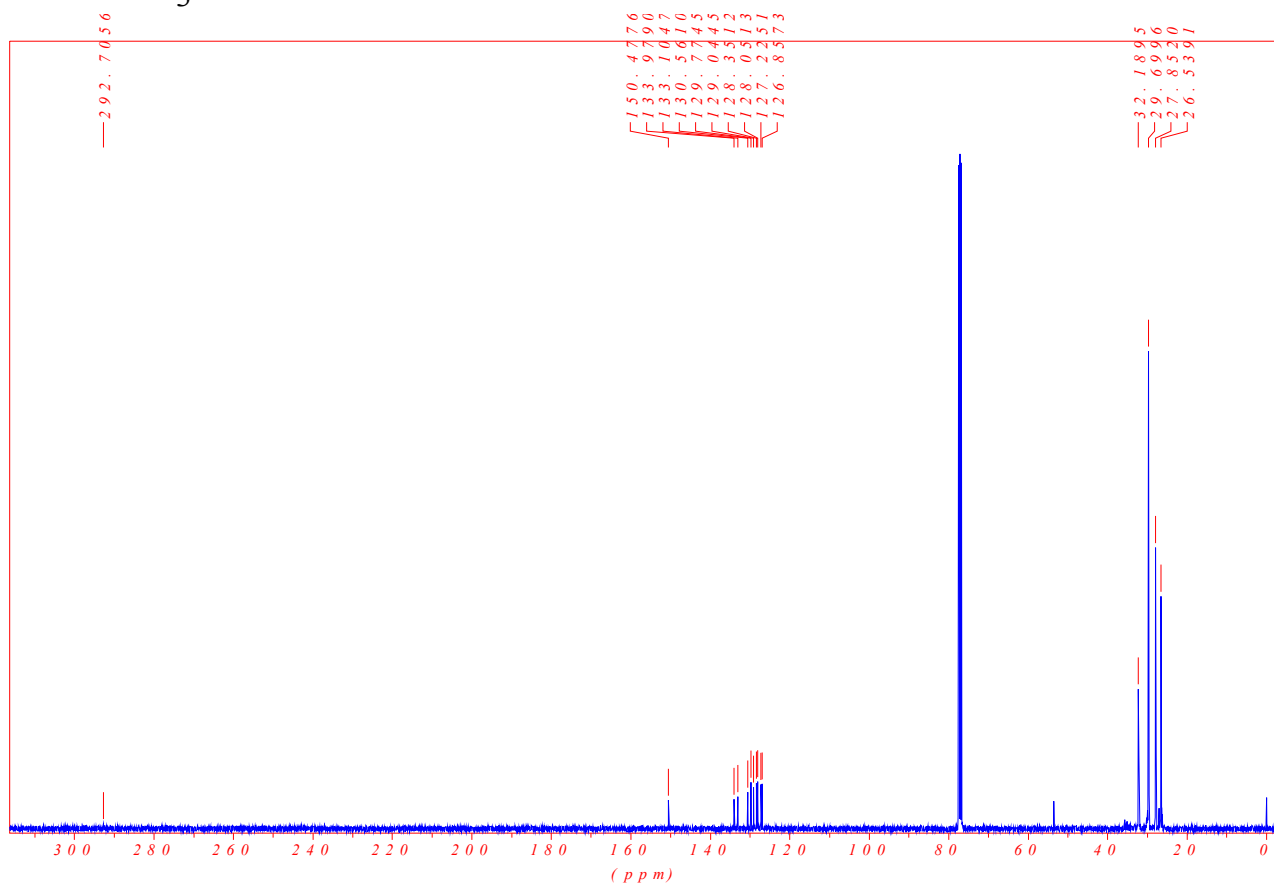
Dichlorobis(tricyclohexylphosphine)(fur-2-ylmethylidene)ruthenium(II) (**1f**):



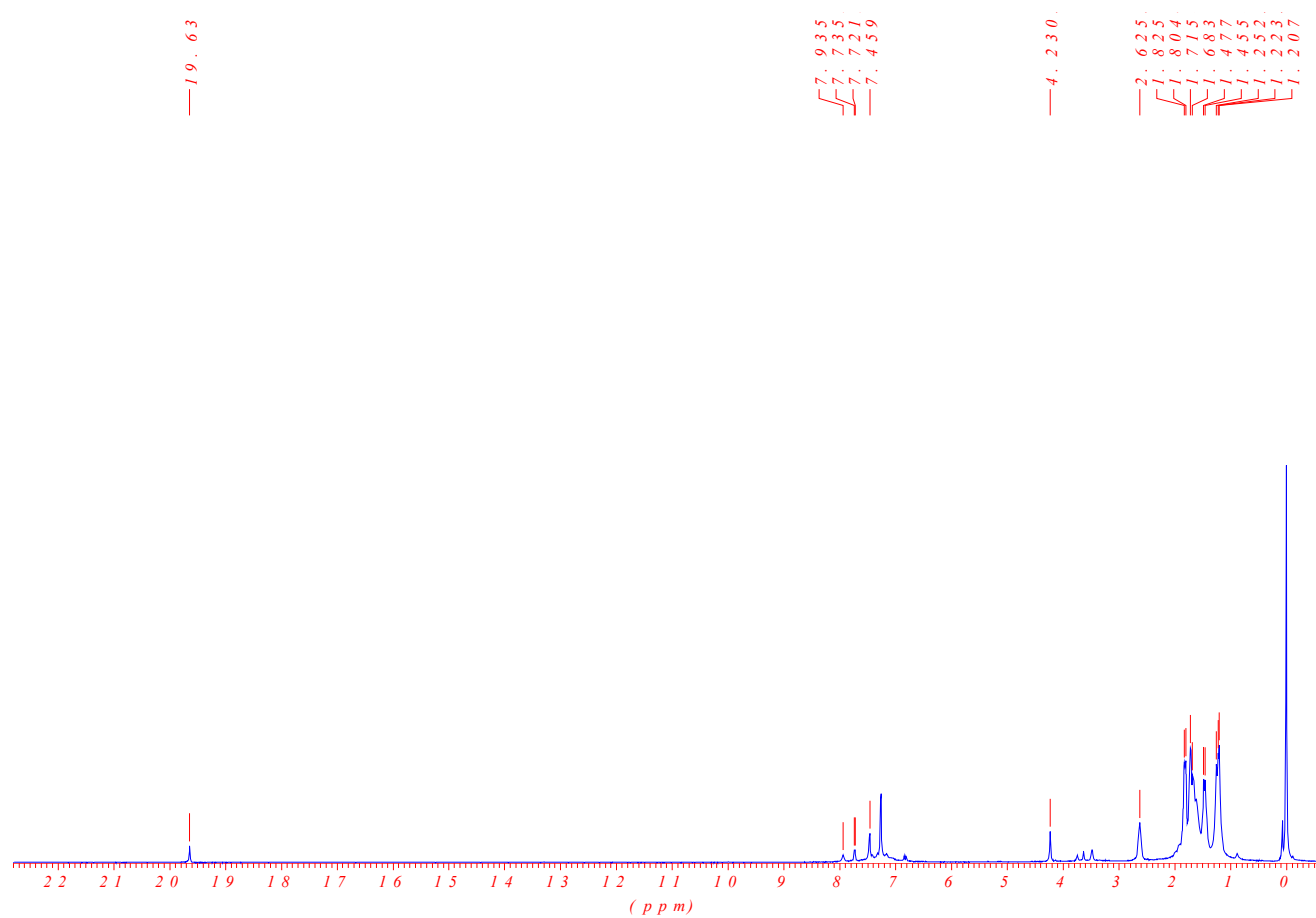
Dichlorobis(tricyclohexylphosphine)(naphth-2-ylmethylidene)ruthenium(II) (**1g**):
1H in CD₂Cl₂



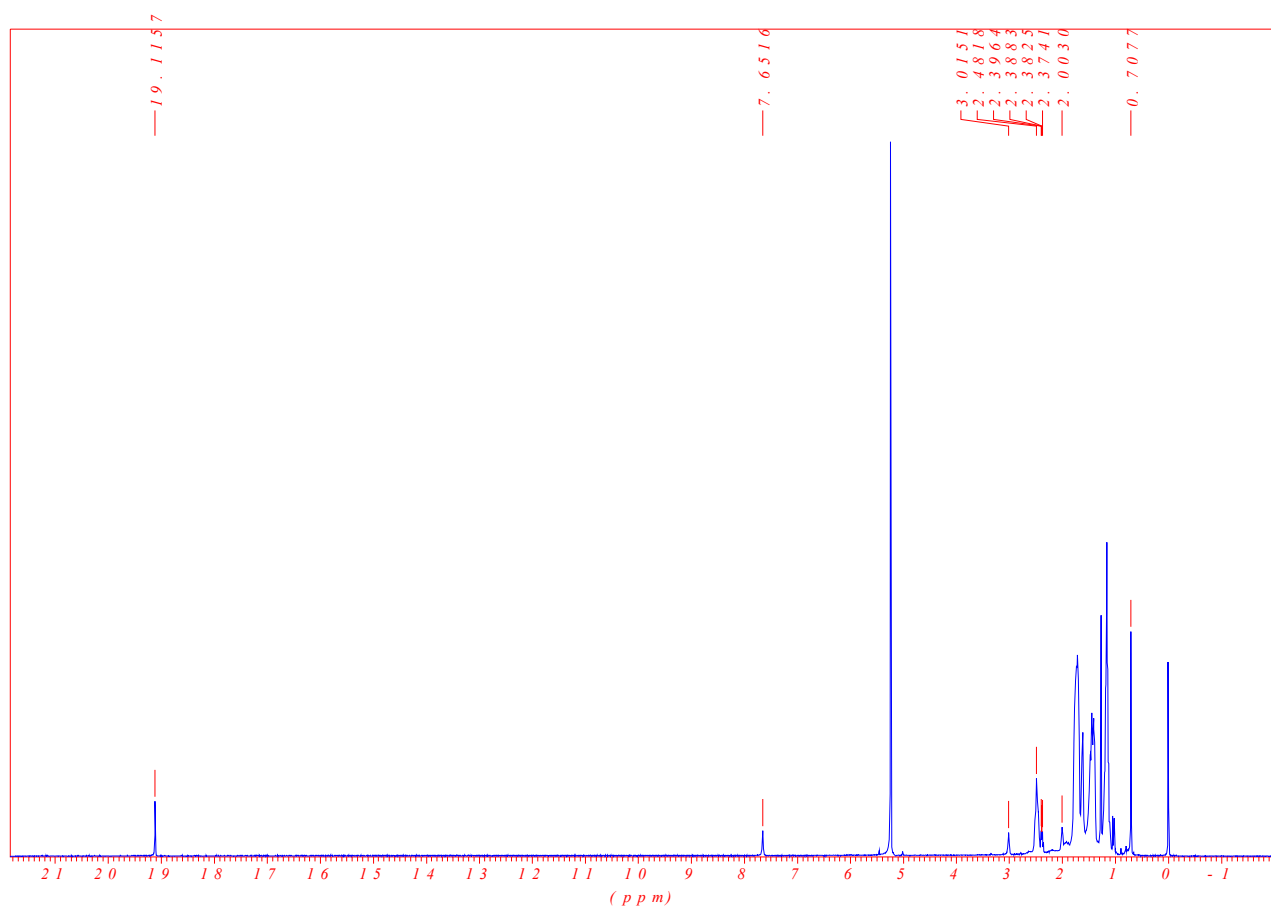
13C in CDCl₃



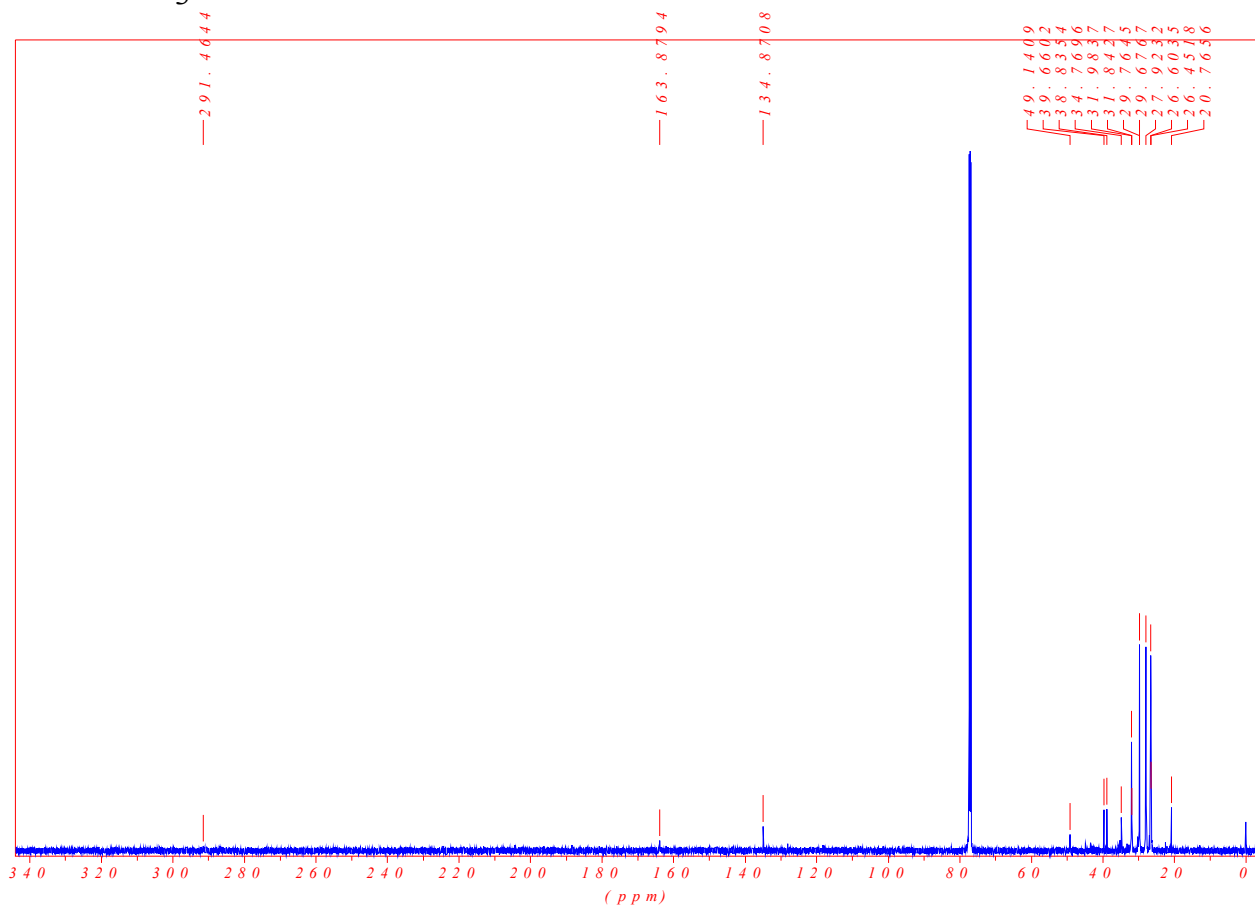
Dichlorobis(tricyclohexylphosphine)(inden-2-ylmethylidene)ruthenium(II) (**1h**):



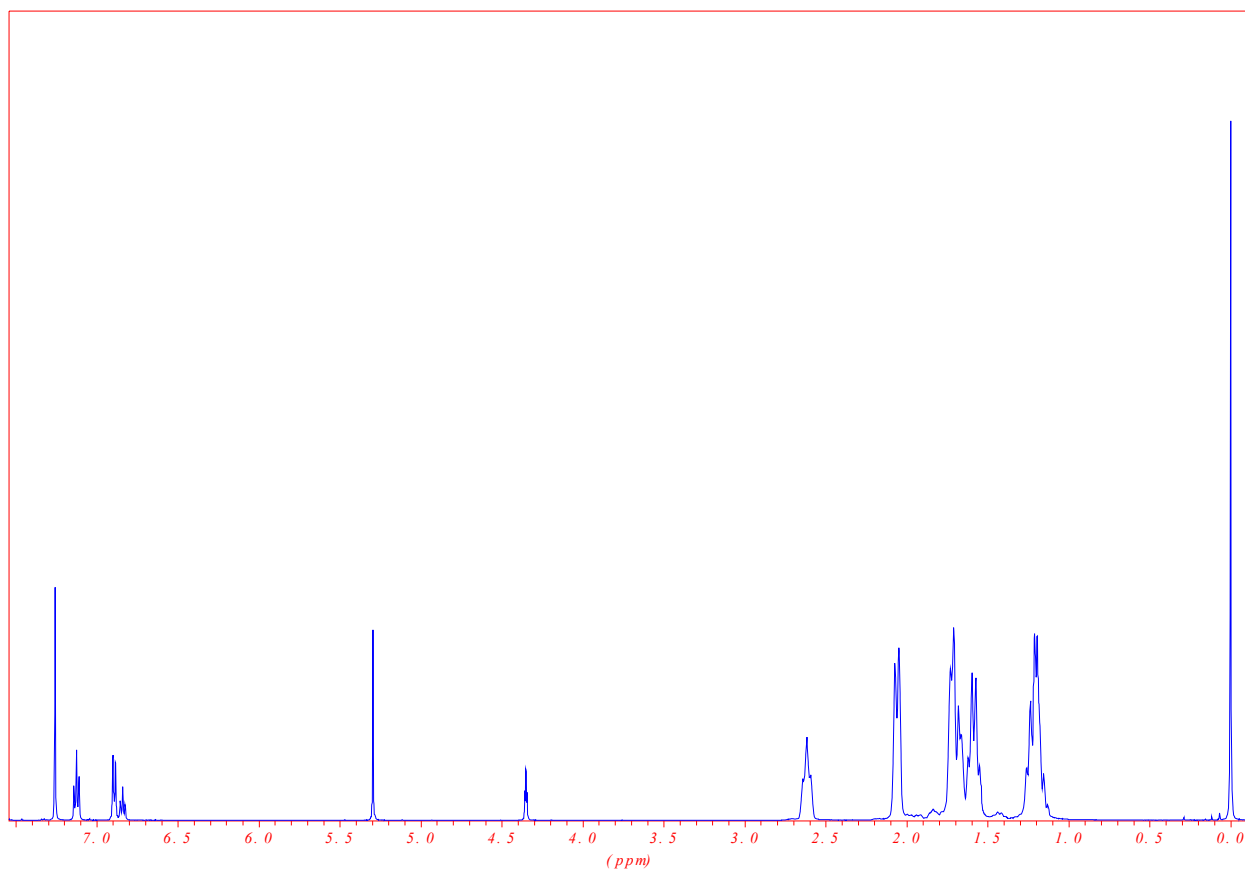
Dichlorobis(tricyclohexylphosphine)(norpinanylmethylidene)ruthenium(II) (**1i**)
1H in CD₂Cl₂



13C in CDCl₃



Dichlorobis(tricyclohexylphosphine)(2-phenylvinylidene)ruthenium(II) (**2**):



Dichlorobis(tricyclohexylphosphine)(2-butylvinylidene)ruthenium(II) (**3**):

