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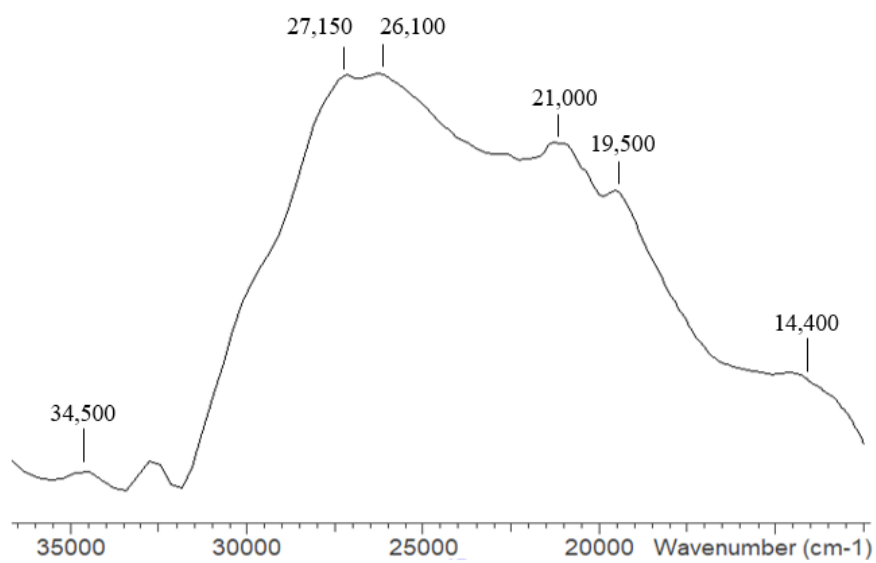


Figure 1: Solid-State UV-Vis spectrum from $[(\text{MoOCl}_2(\text{TeMe}_2))_2(\mu\text{-Cl})_2]$.

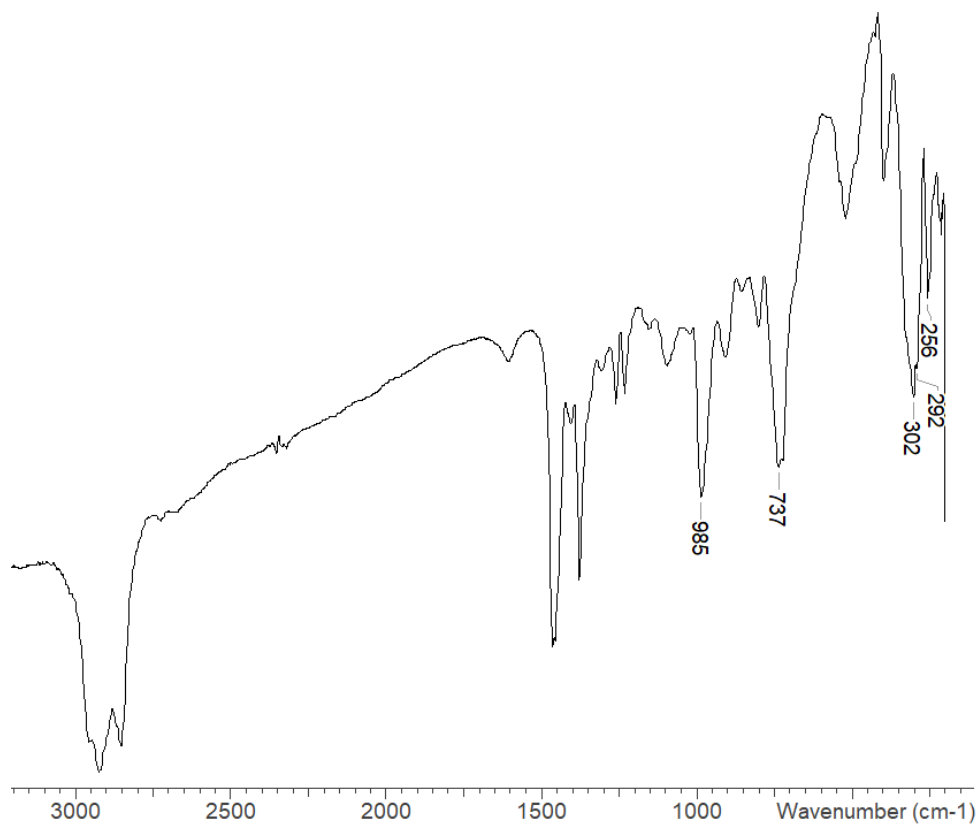


Figure 2: IR spectrum of $[(\text{MoOCl}_2(\text{TeMe}_2))_2(\mu\text{-Cl})_2]$.

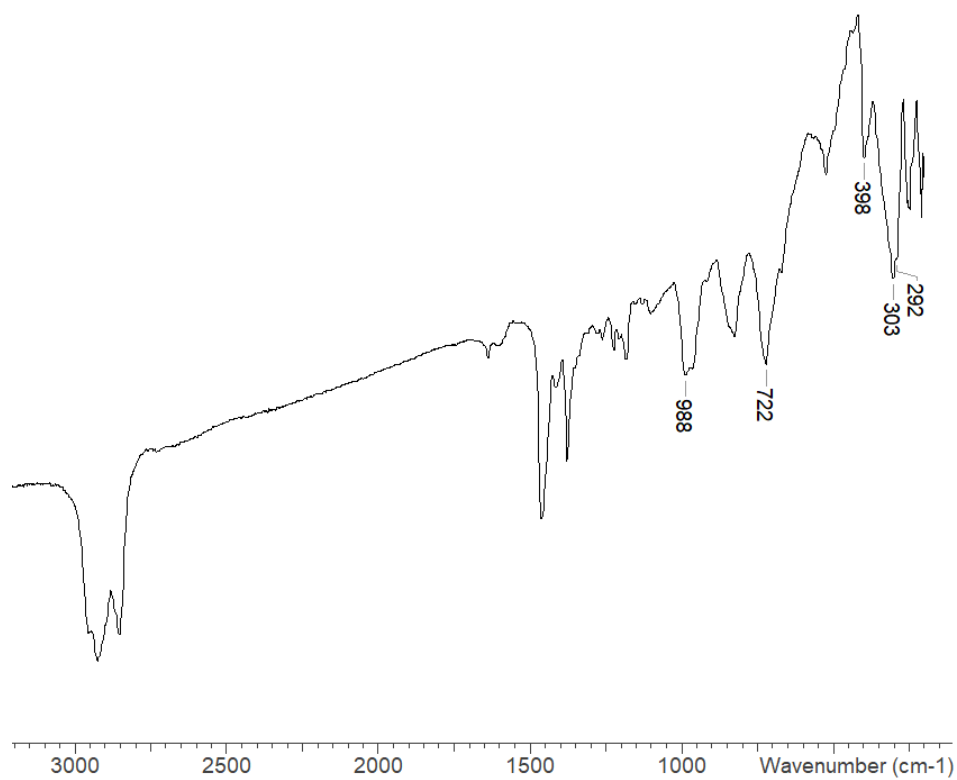


Figure 3: IR spectrum of $[\text{MoOCl}_3(\text{MeTe}(\text{CH}_2)_3\text{TeMe})]$.

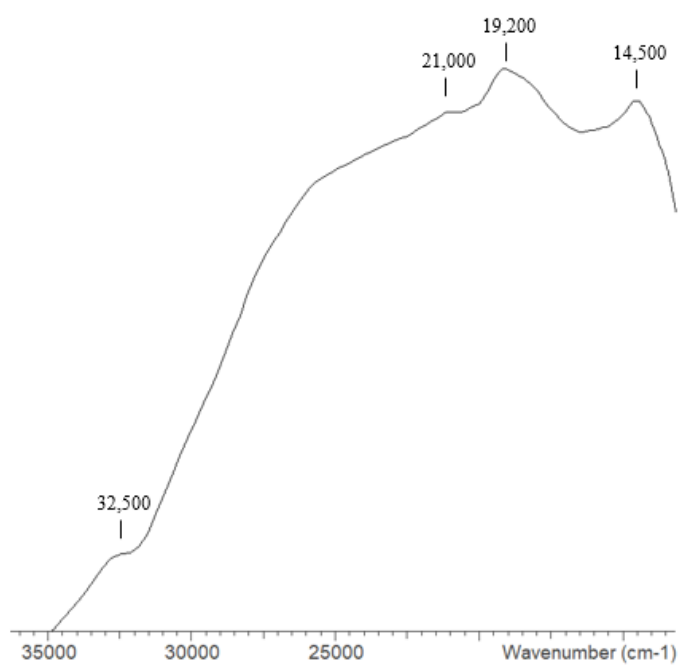


Figure 4: Solid-State UV-Vis spectrum from $[\text{MoOCl}_3(o\text{-C}_6\text{H}_4(\text{TeMe})_2)]$.

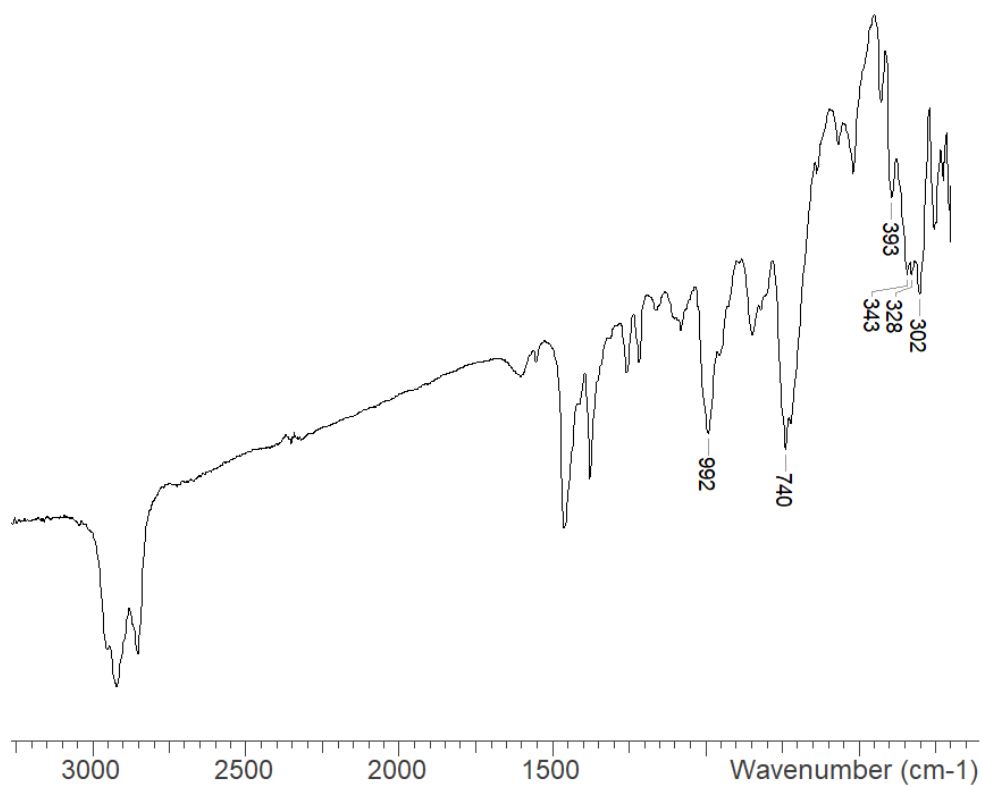


Figure 5: IR spectrum of $[\text{MoOCl}_3(\text{o-C}_6\text{H}_4(\text{TeMe})_2)]$.

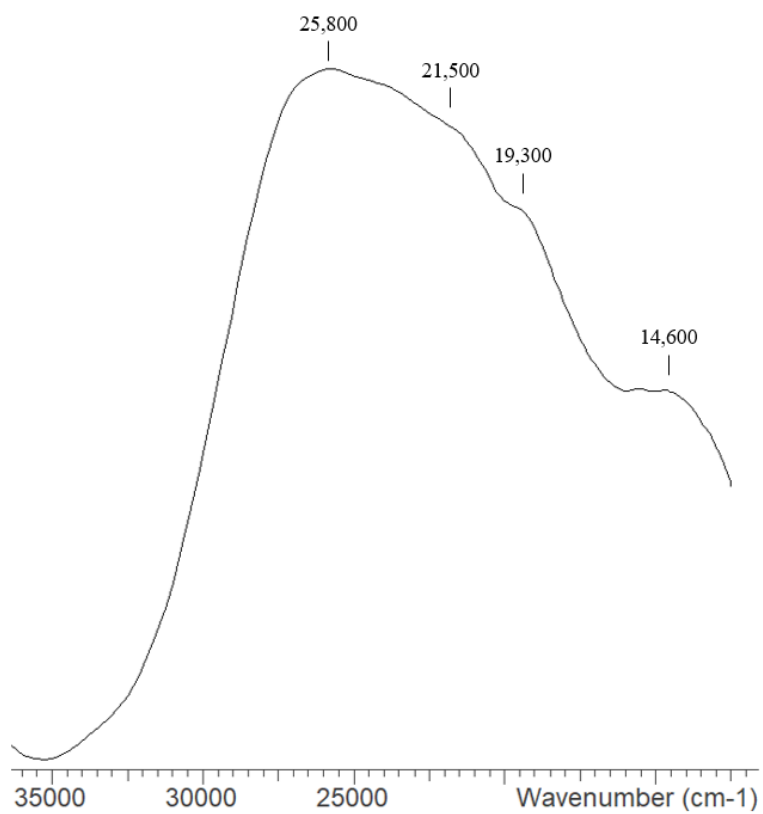


Figure 6: Solid-State UV-Vis spectrum from $[\text{MoOCl}_3(\text{MeSe}(\text{CH}_2)_2\text{SeMe})]$.

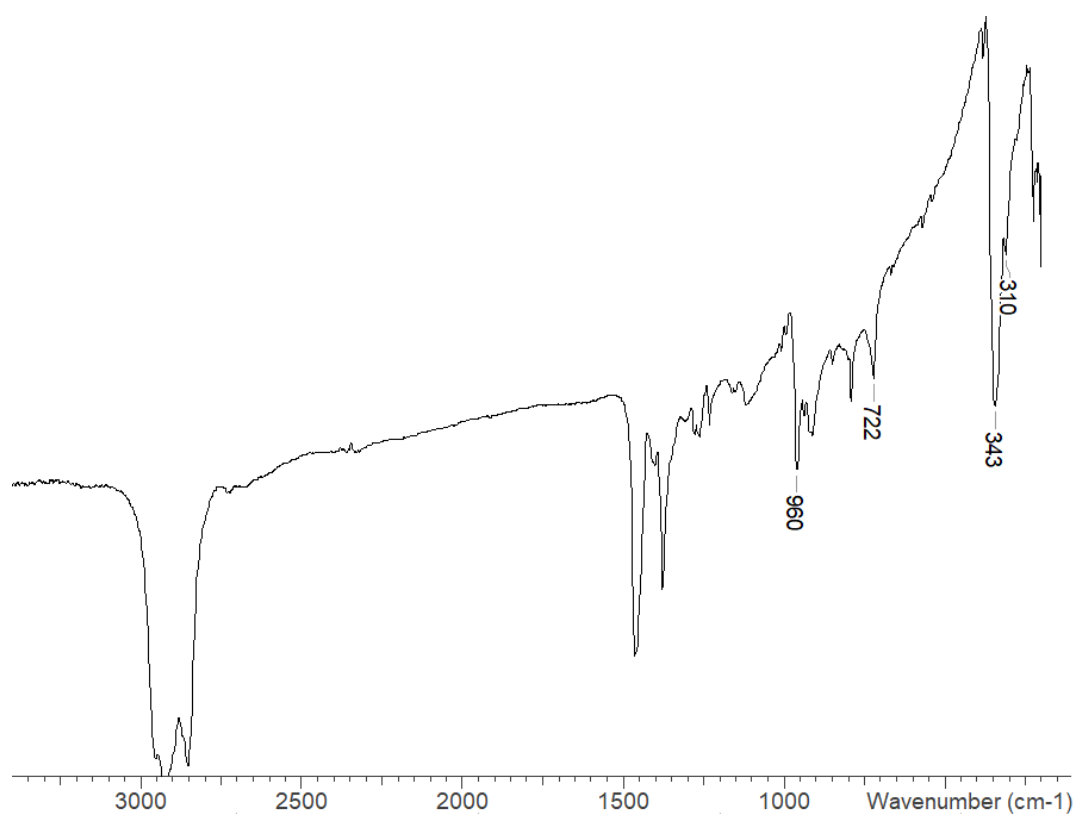


Figure 7 :IR spectrum of $[\text{MoOCl}_3(\text{MeSe}(\text{CH}_2)_2\text{SeMe})]$.

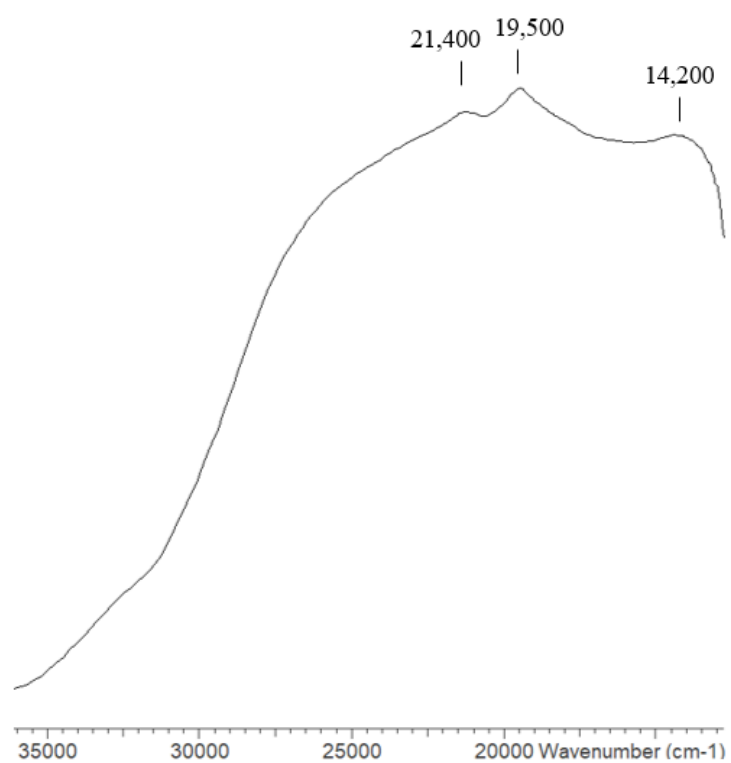


Figure 8: Solid-State UV-Vis spectrum from $[\text{MoOCl}_3(\text{MeSe}(\text{CH}_2)_3\text{SeMe})]$.

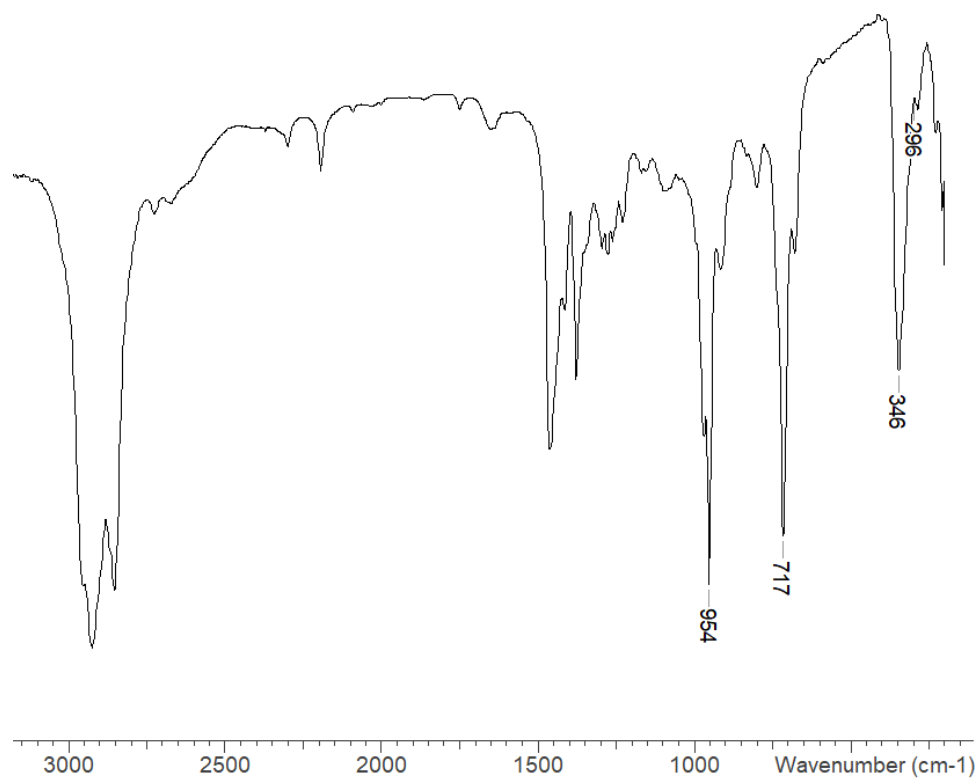


Figure 9 :IR spectrum of $[\text{MoOCl}_3(\text{MeSe}(\text{CH}_2)_3\text{SeMe})]$.

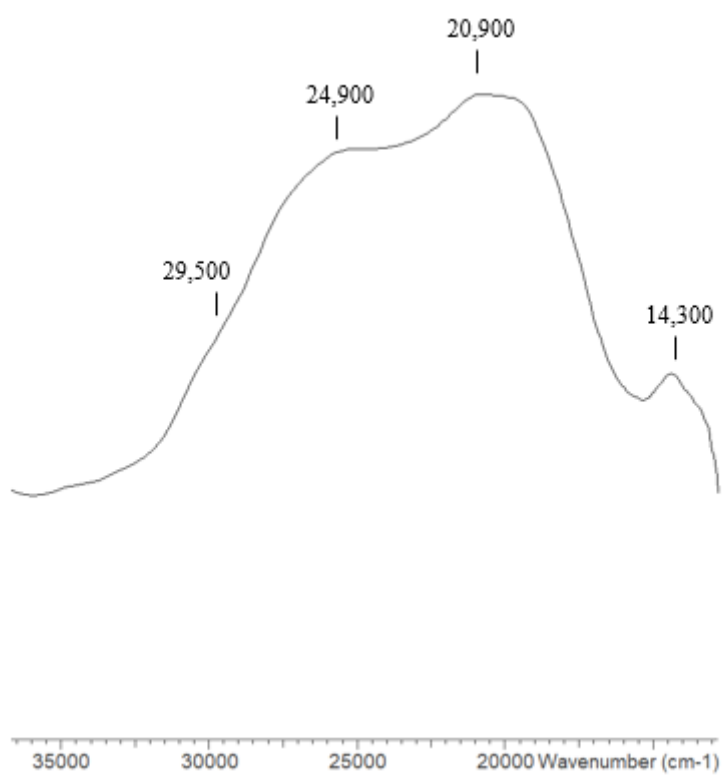


Figure 10: UV-Vis spectrum from $[\text{MoOCl}_3(o\text{-C}_6\text{H}_4(\text{SeMe})_2)]$.

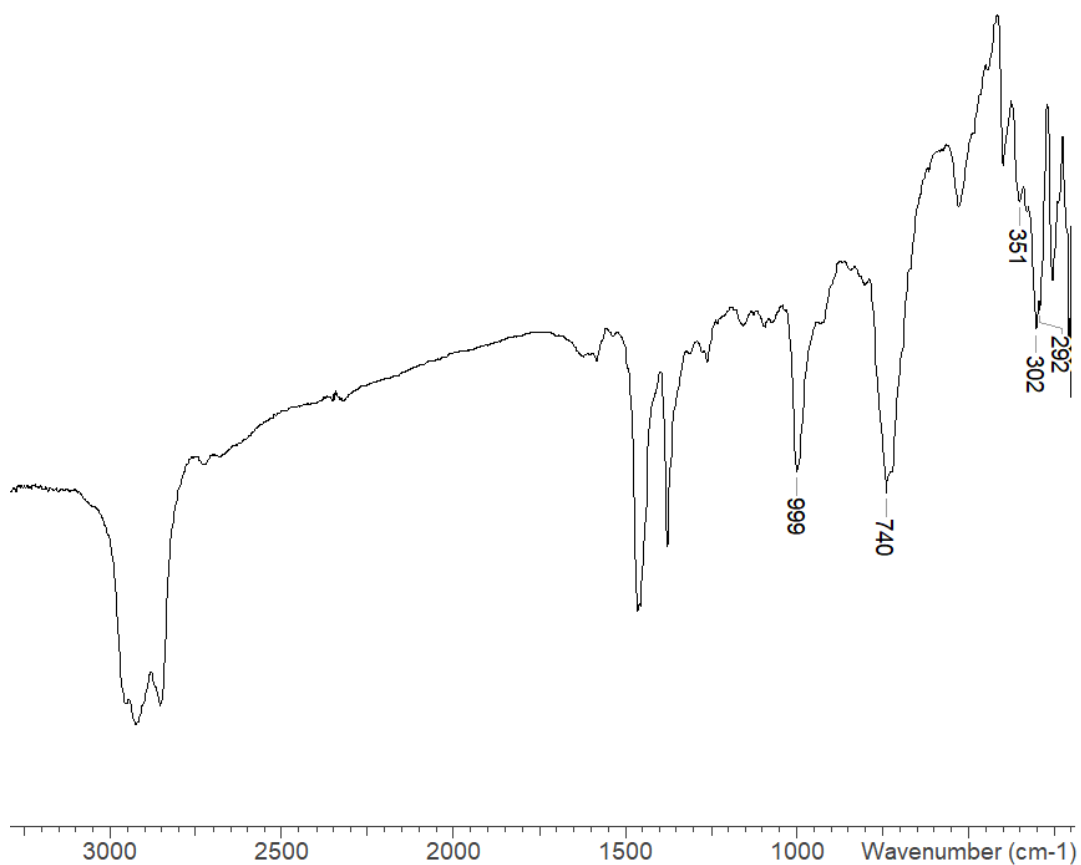


Figure 11: IR spectrum of $[\text{MoOCl}_3(o\text{-C}_6\text{H}_4(\text{SeMe})_2)]$.

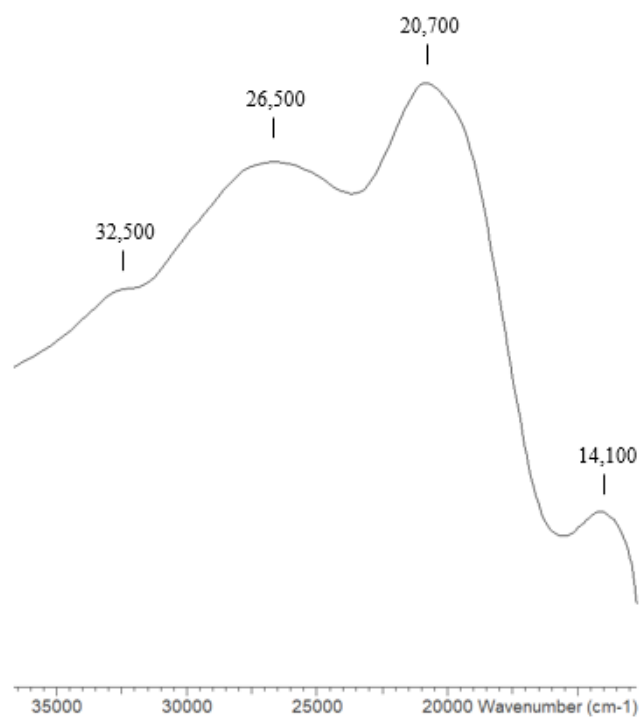


Figure 12: Solid-State UV-Vis spectrum from $[(\text{MoOCl}_2(\text{SeMe}_2))_2(\mu\text{-Cl})_2]$.

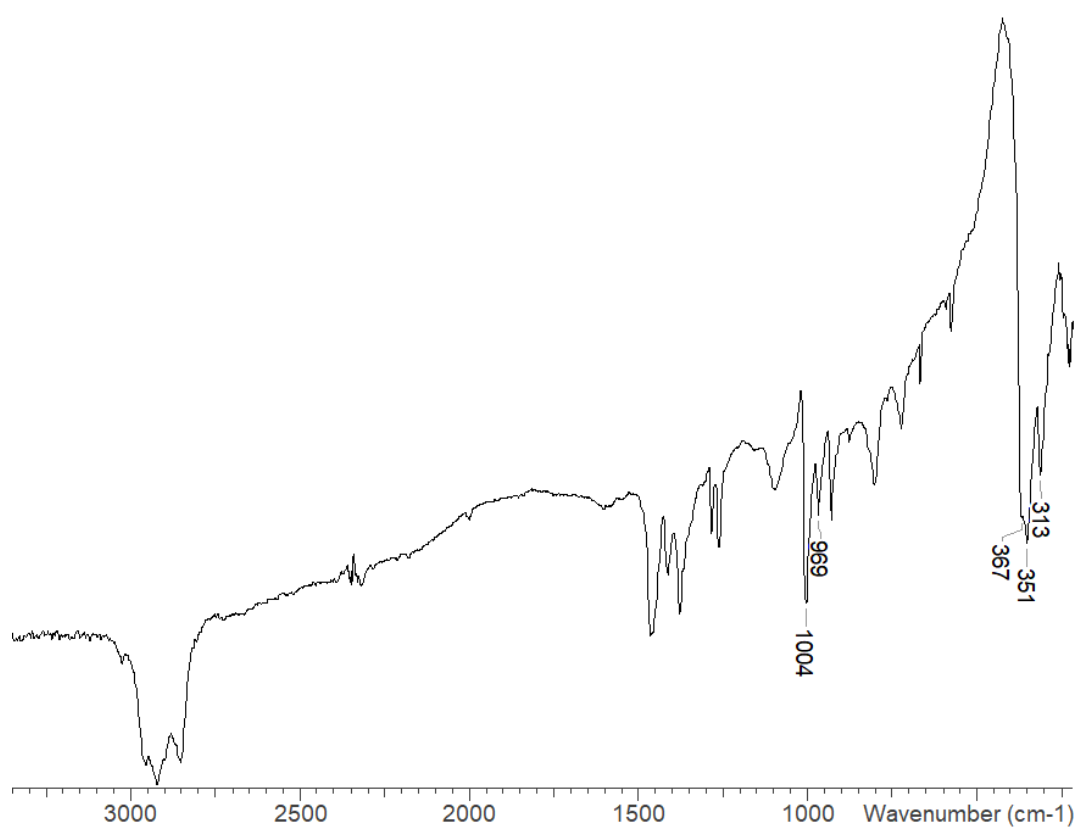


Figure 13: IR spectrum of $[(\text{MoOCl}_2(\text{SeMe}_2))_2(\mu\text{-Cl})_2]$.

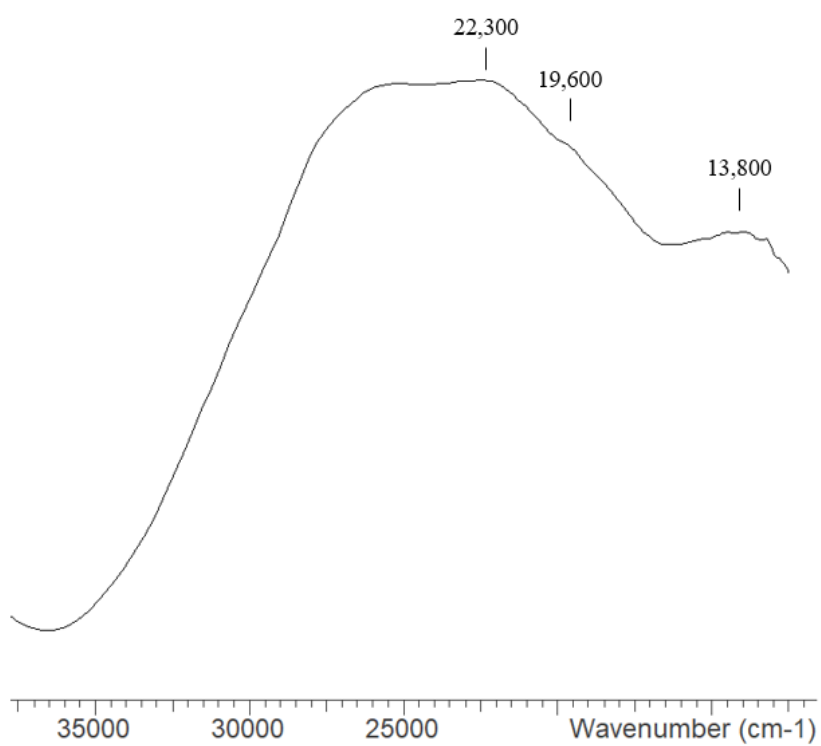


Figure 14: Solid-State UV-Vis spectrum from $[(\text{MoOCl}_2(\text{SMe}_2))_2(\mu\text{-Cl})_2]$.

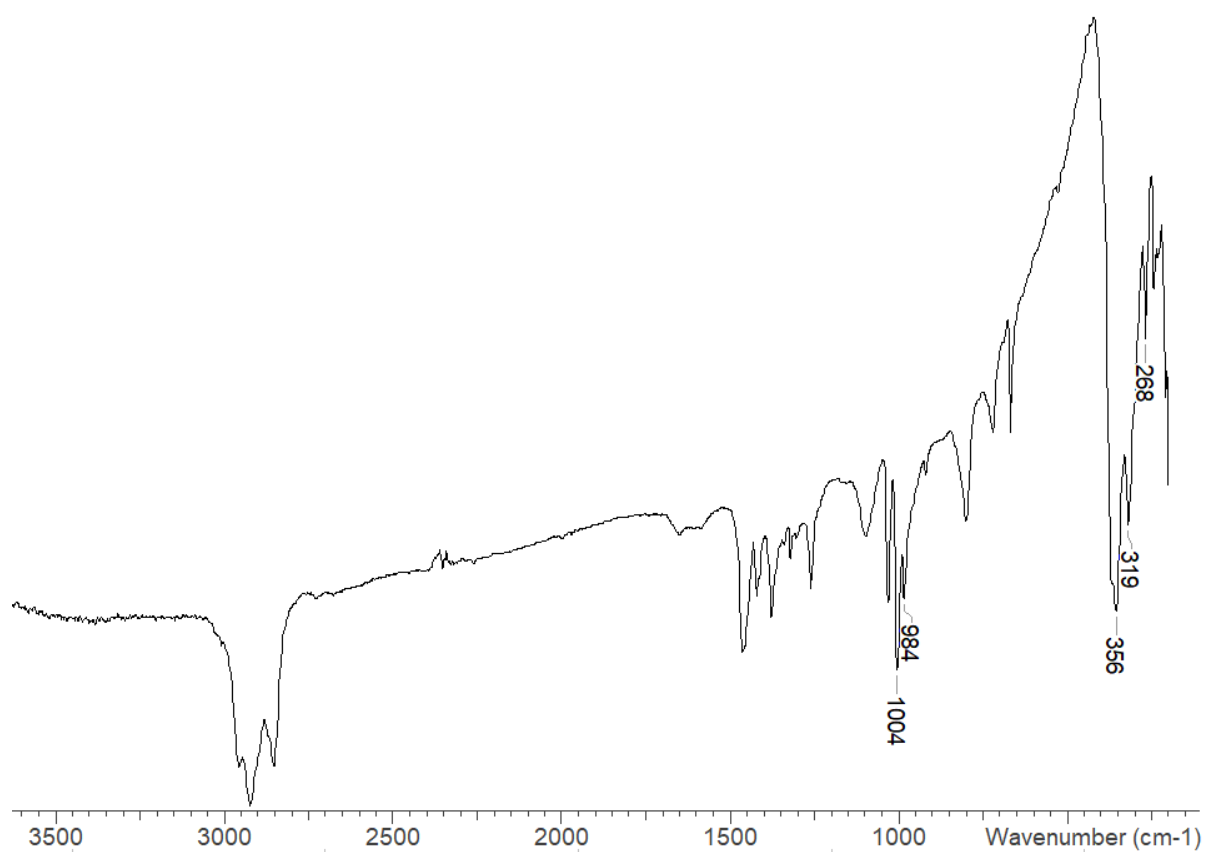


Figure 15: IR spectrum from $[(\text{MoOCl}_2(\text{SMe}_2))_2(\mu\text{-Cl})_2]$.

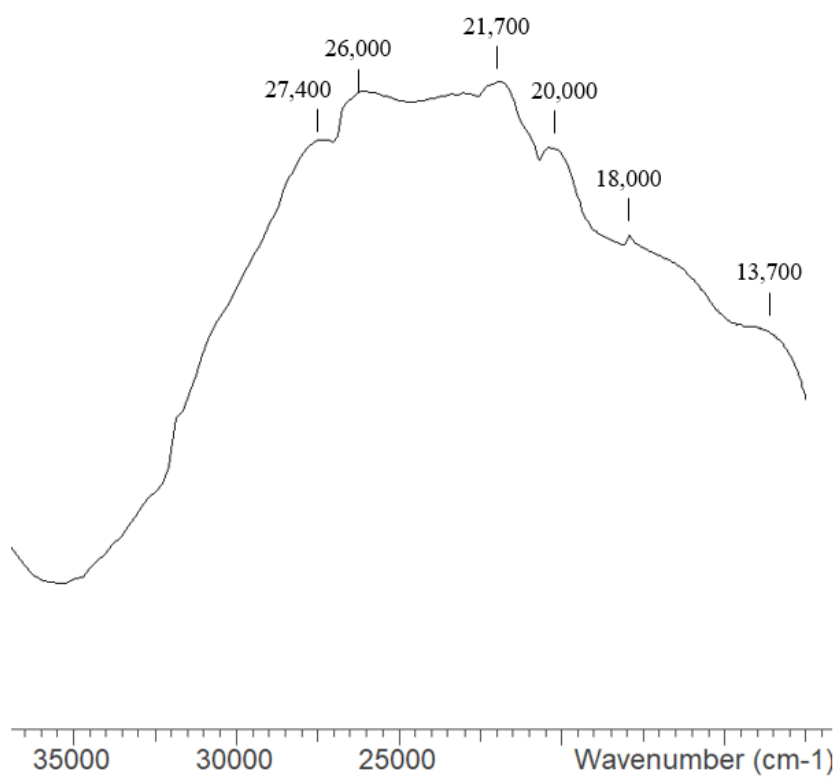


Figure 16: Solid-State UV-Vis spectrum from $[\text{MoOCl}_3(\text{MeS}(\text{CH}_2)_3\text{SMe})]$.

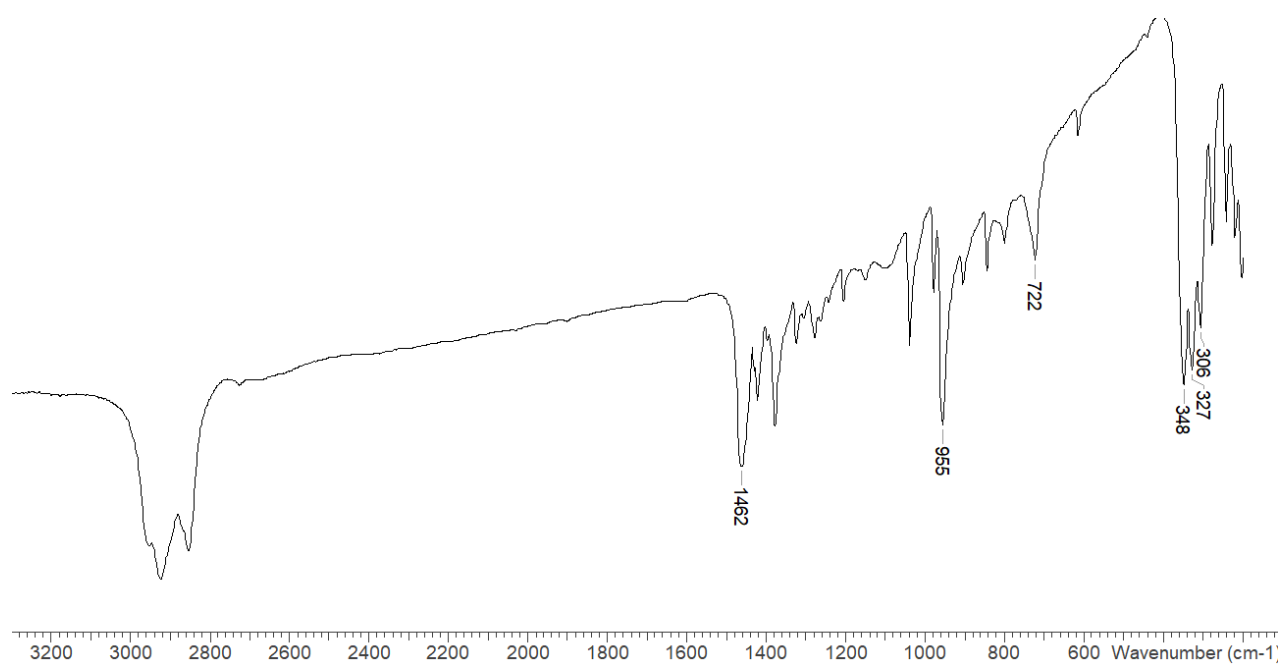


Figure 17: IR spectrum of $[\text{MoOCl}_3(\text{MeS}(\text{CH}_2)_3\text{SMe})]$.

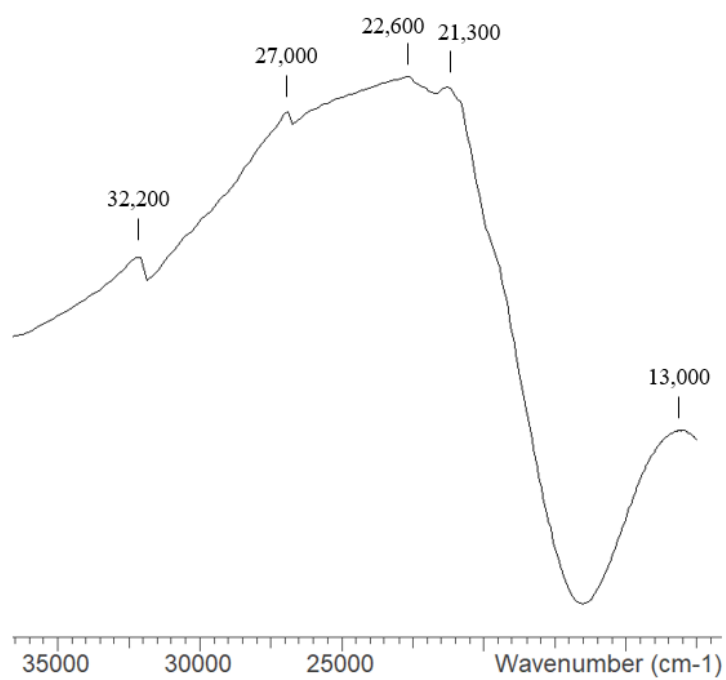


Figure 18: Solid-State UV-Vis spectrum from $[\text{MoOCl}_3(\text{PhS}(\text{CH}_2)_2\text{SPh})]$.

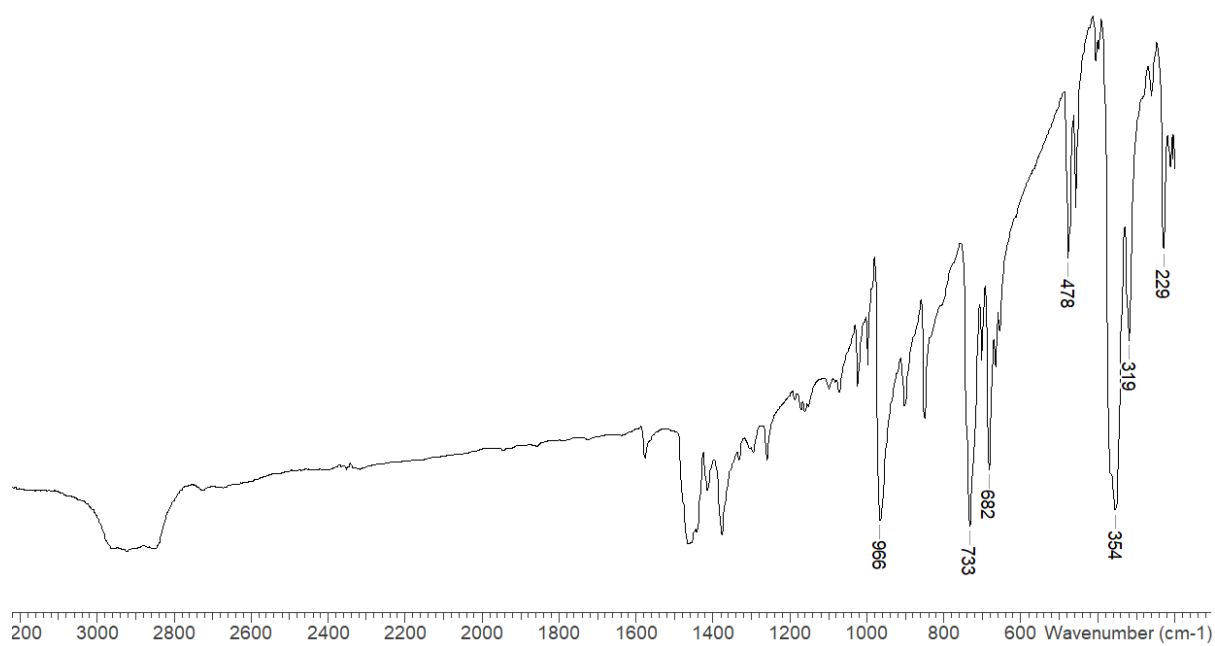


Figure 19: IR spectrum of $[\text{MoOCl}_3(\text{PhS}(\text{CH}_2)_2\text{SPh})]$.

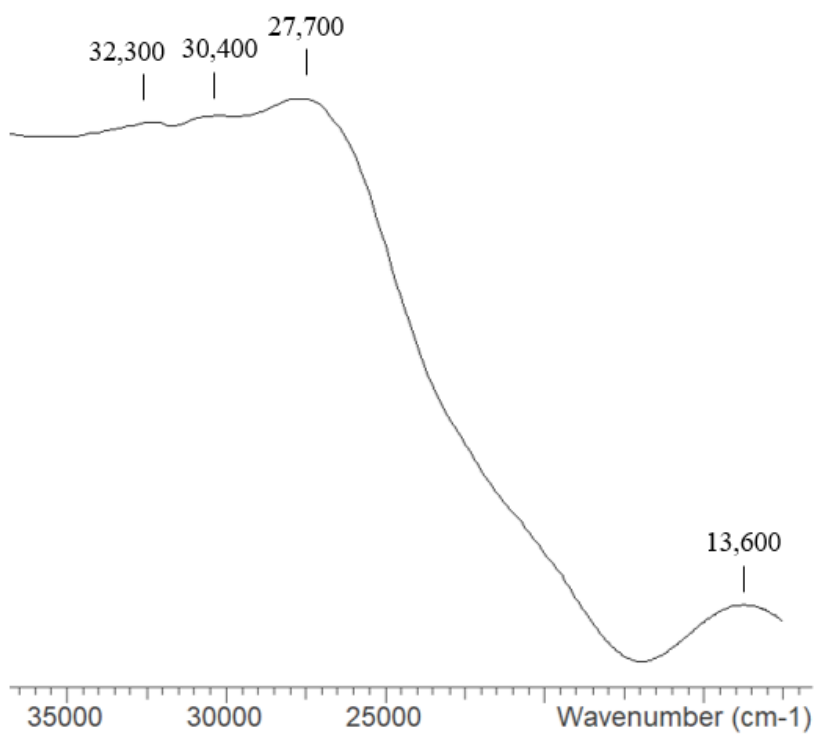


Figure 20: Solid-State UV-Vis spectrum from $[\text{MoOCl}_3(\text{iPrS}(\text{CH}_2)_2\text{SiPr})]$.

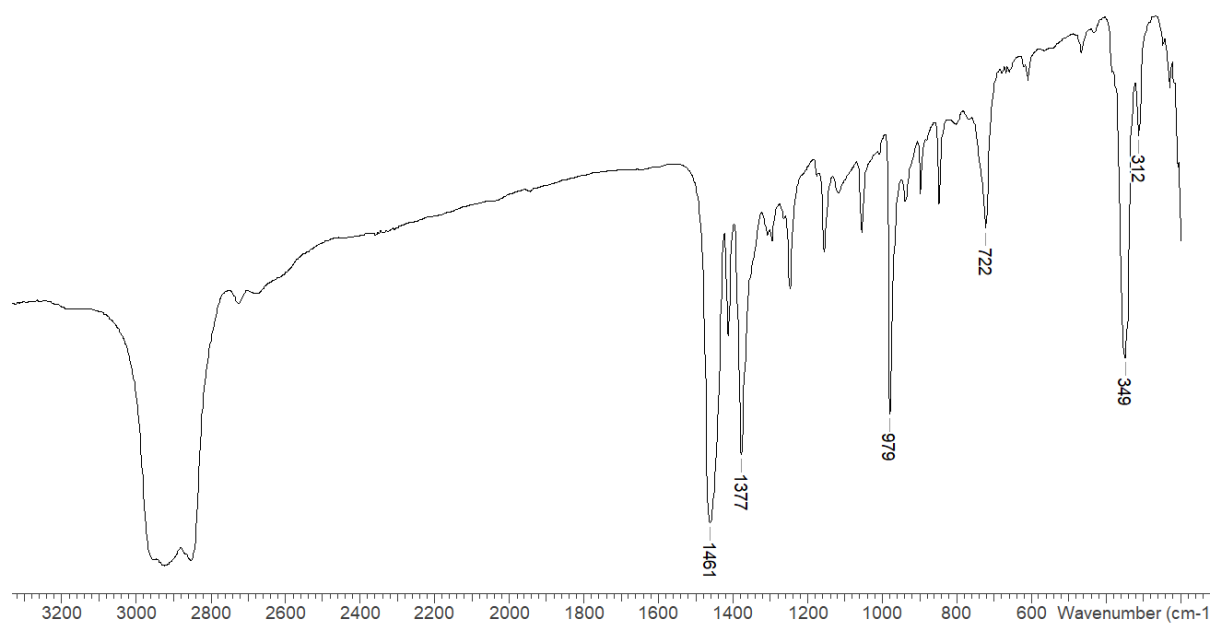


Figure 21: IR spectrum of $[\text{MoOCl}_3(\text{iPrS}(\text{CH}_2)_2\text{SiPr})]$.

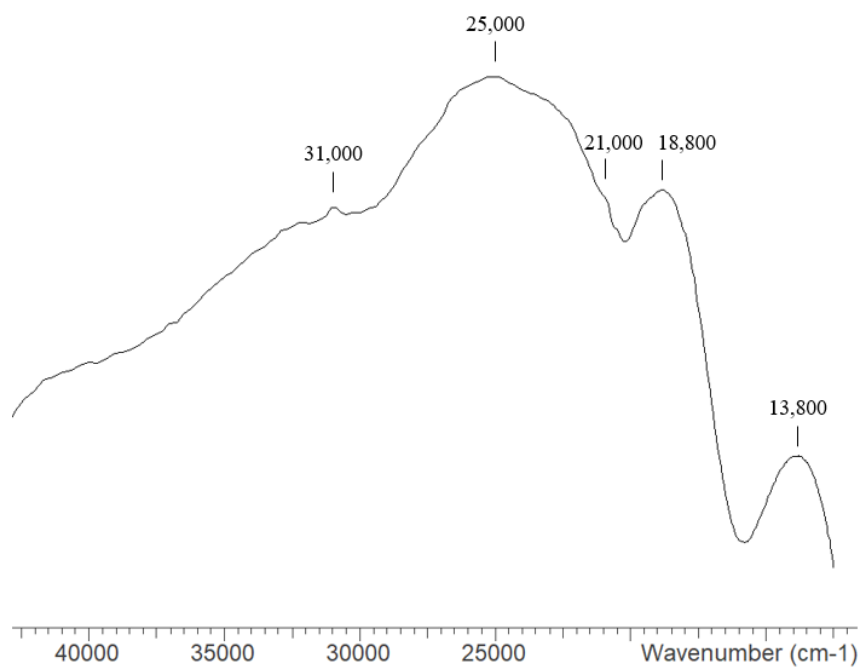


Figure 22: Solid-State UV-Vis spectrum from $[\text{MoOCl}_3(2,2'\text{-bipy})]$.

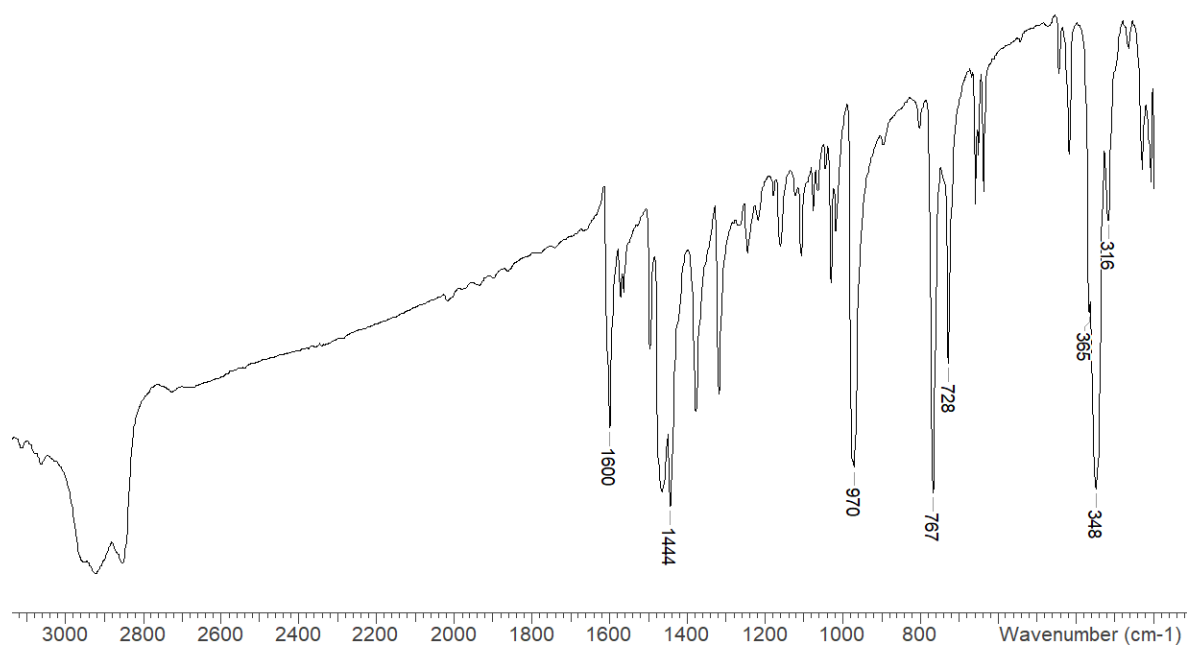


Figure 23: IR spectrum of $[\text{MoOCl}_3(2,2'\text{-bipy})]$.

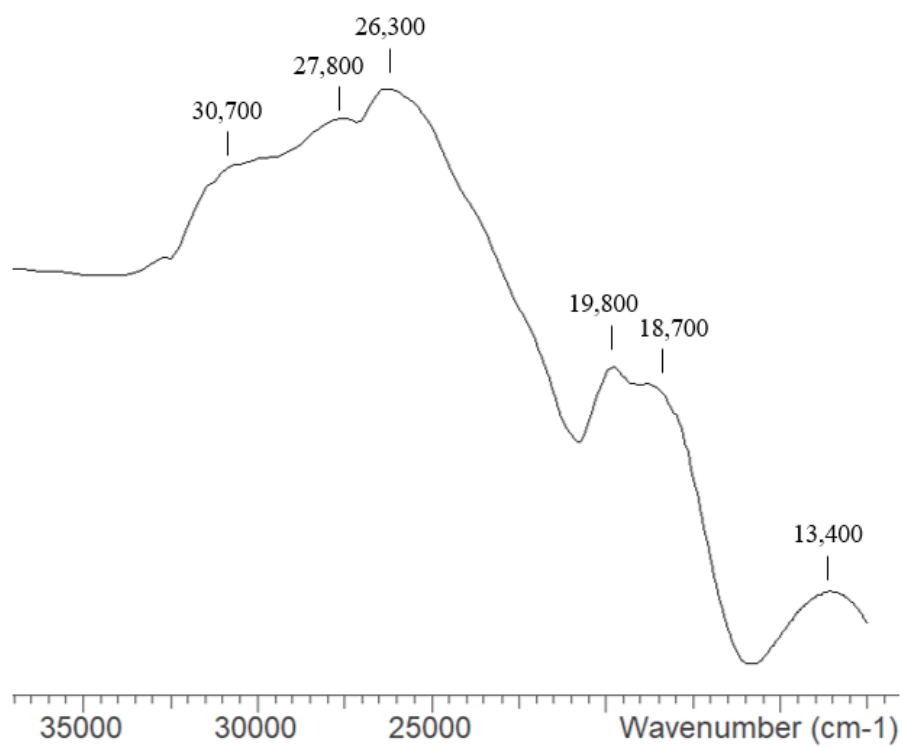


Figure 24: Solid-State UV-Vis spectrum from $[\text{MoOCl}_3(1,10\text{-phen})]$.

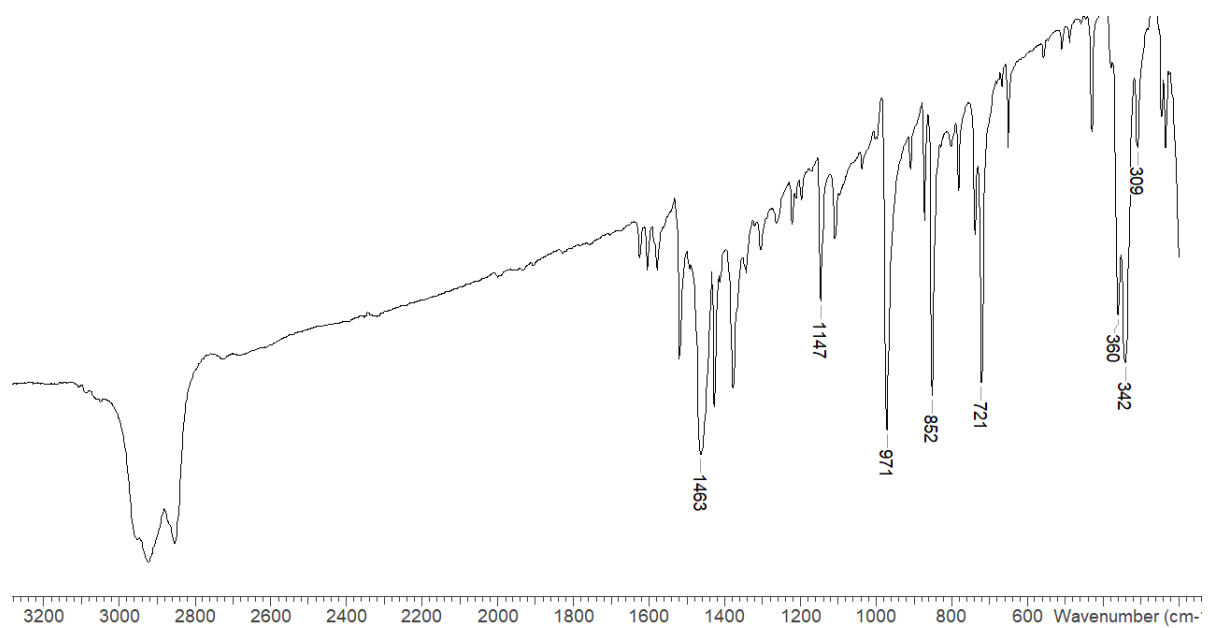


Figure 25: IR spectrum of $[\text{MoOCl}_3(1,10\text{-phen})]$.

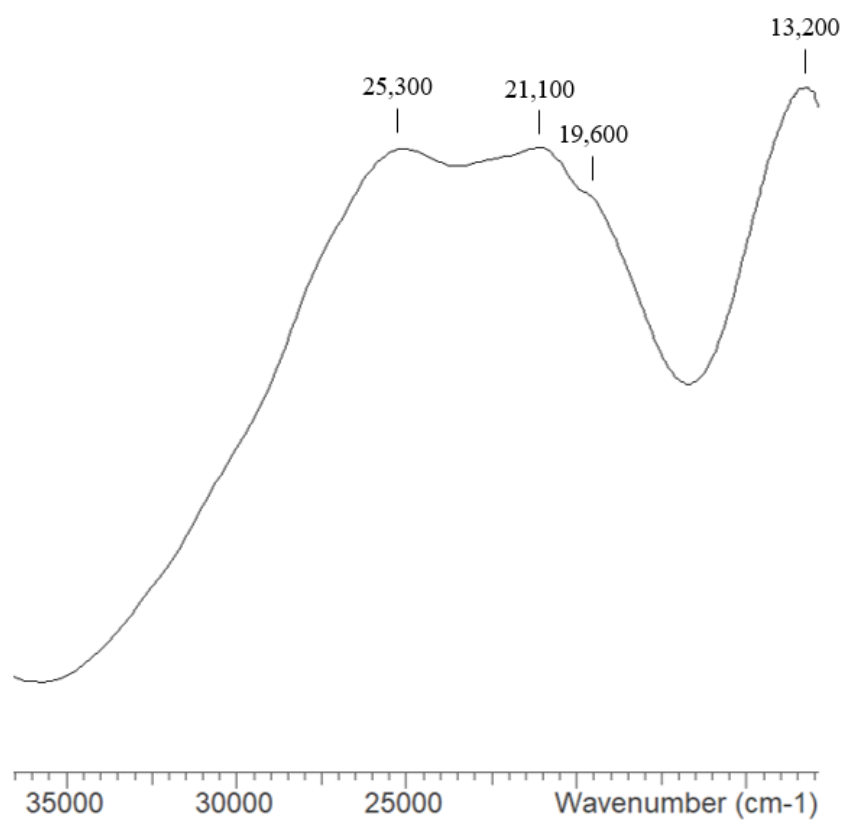


Figure 26: Solid-State UV-Vis spectrum from $[\text{MoOCl}_3(\text{THF})_2]$.

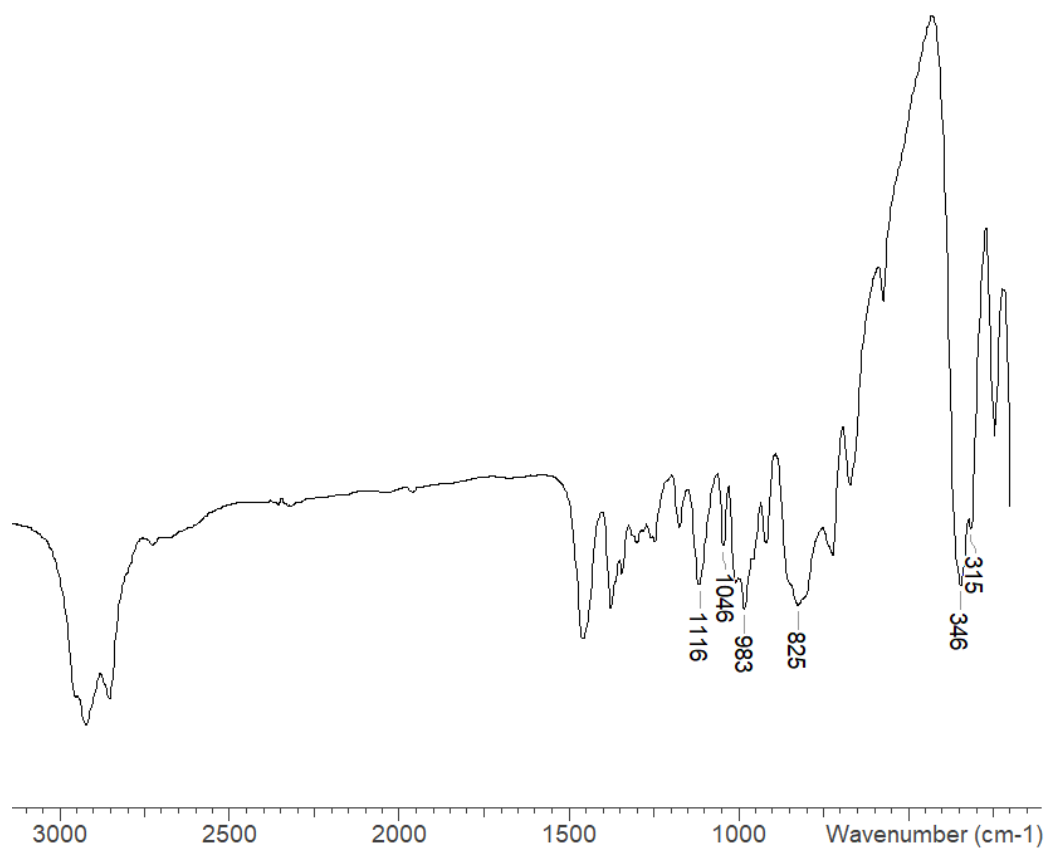


Figure 27: IR spectrum of $[\text{MoOCl}_3(\text{THF})_2]$.

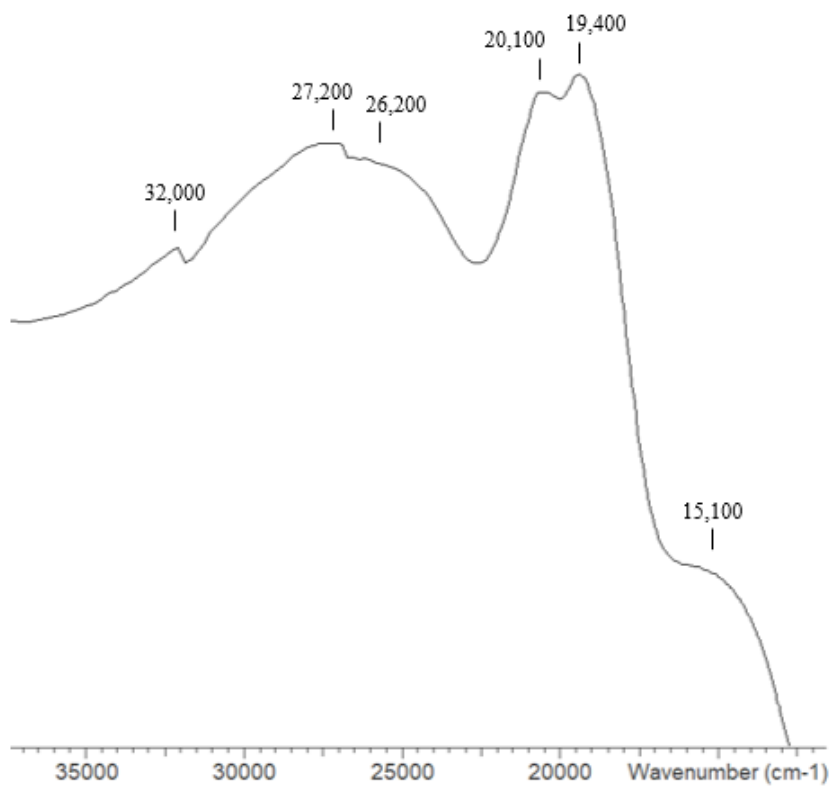


Figure 28: Solid-State UV-Vis spectrum from $[\text{MoOCl}_3(\text{dppe})]$.

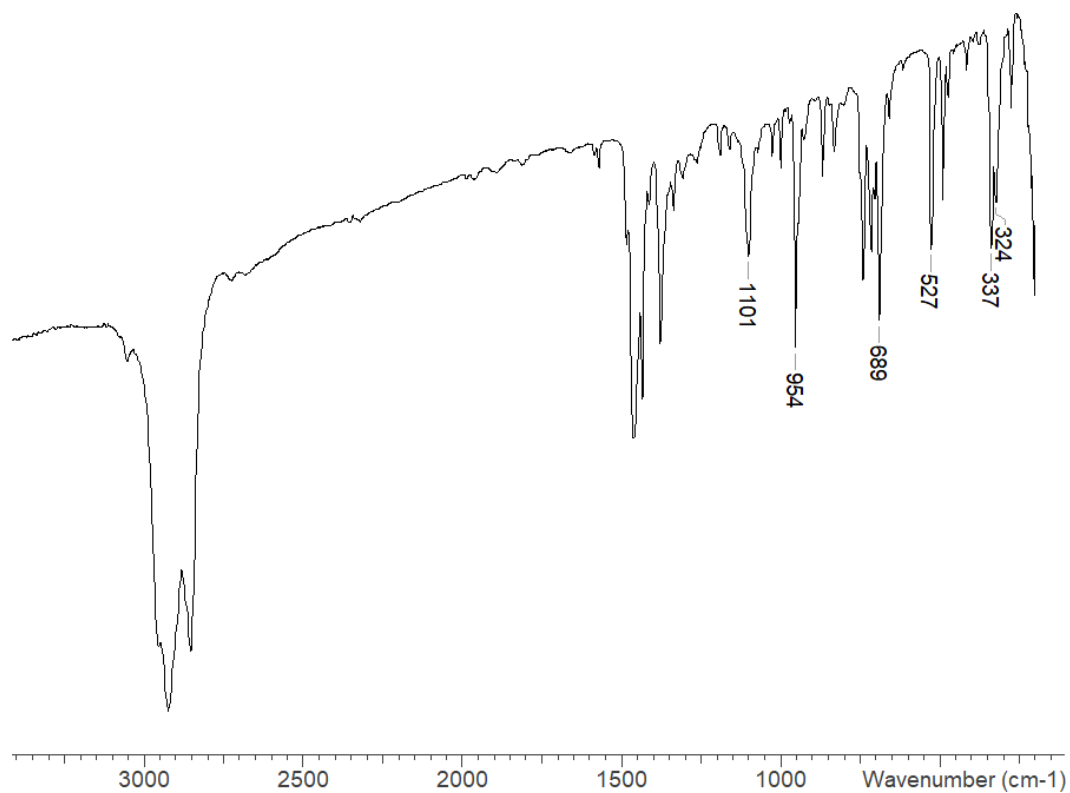


Figure 29: IR spectrum of $[\text{MoOCl}_3(\text{dppe})]$.

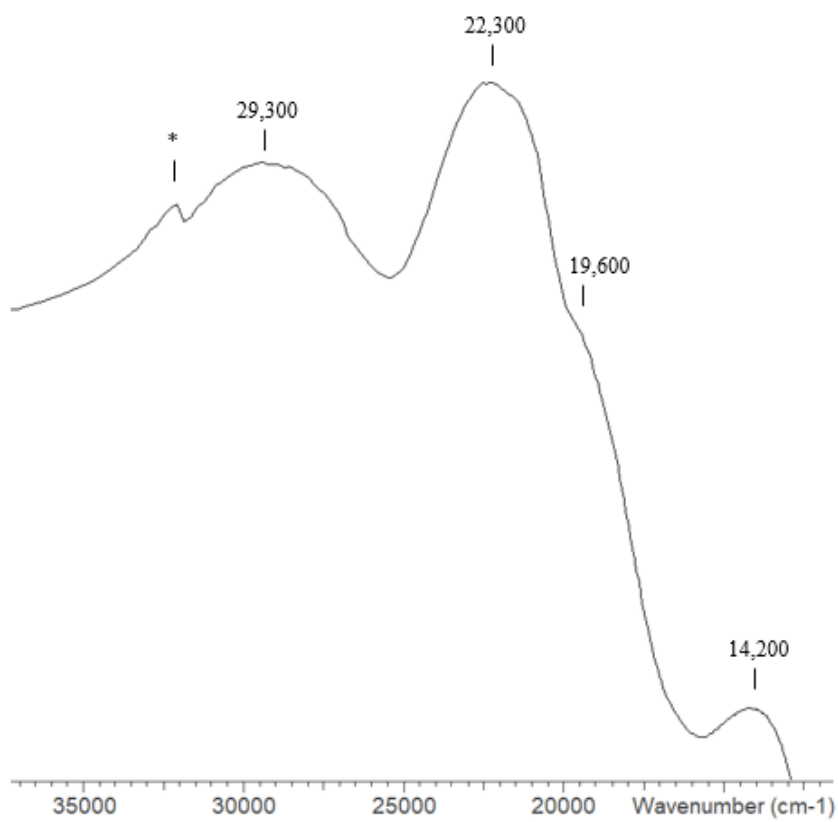


Figure 30: Solid-State UV-Vis spectrum from $[\text{MoOCl}_3(\text{PMe}_3)_2]$. * Artefact from lamp change.

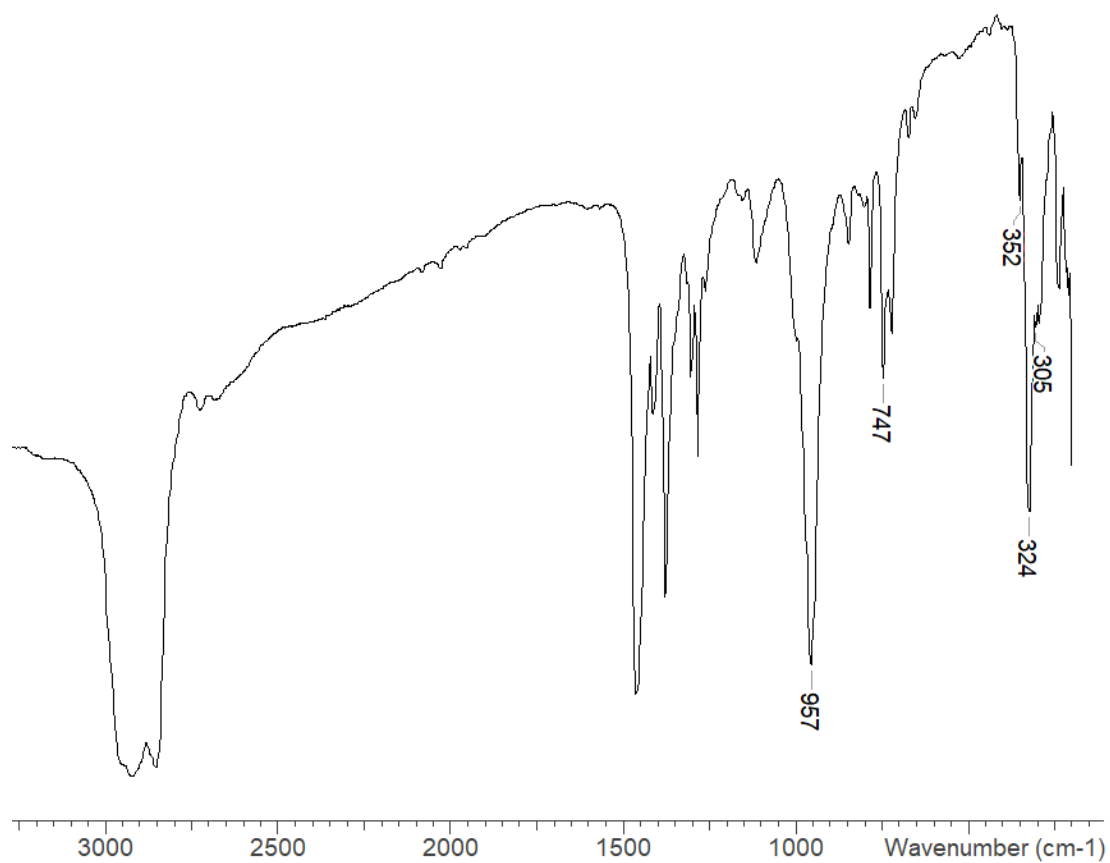


Figure 31: IR spectrum of $[\text{MoOCl}_3(\text{PMe}_3)_2]$.

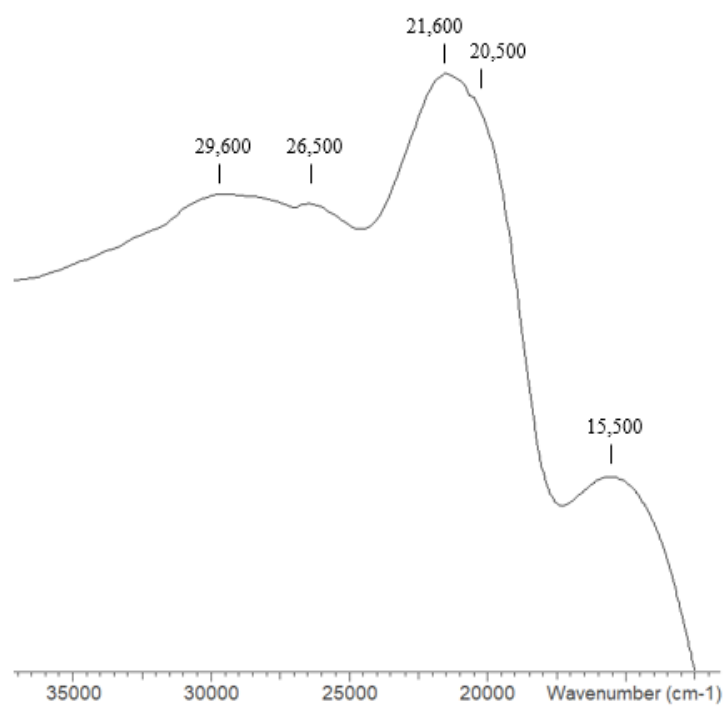


Figure 32: Solid-State UV-Vis spectrum from $[\text{MoOCl}_3(\text{dmpe})]$.

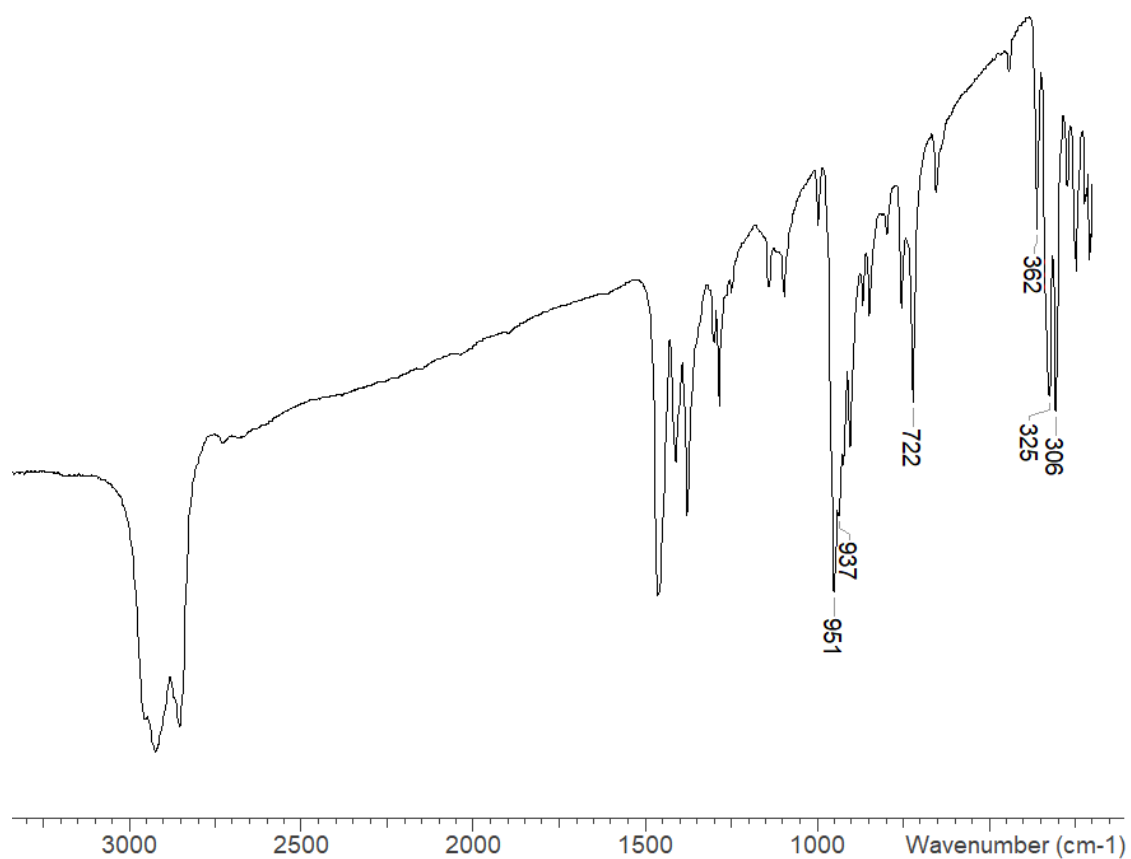


Figure 33: IR spectrum of $[\text{MoOCl}_3(\text{dmpe})]$.

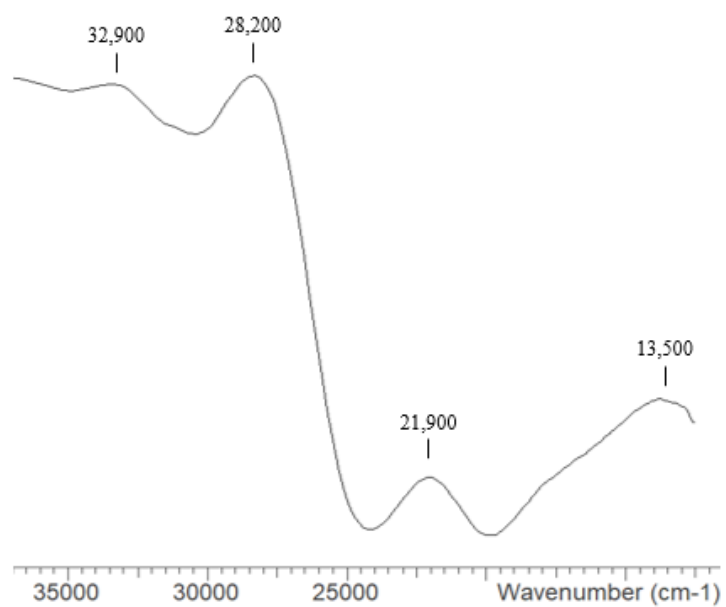


Figure 34: Solid-State UV-Vis spectrum from $\text{MoOCl}_4 + \text{OPPh}_3$.

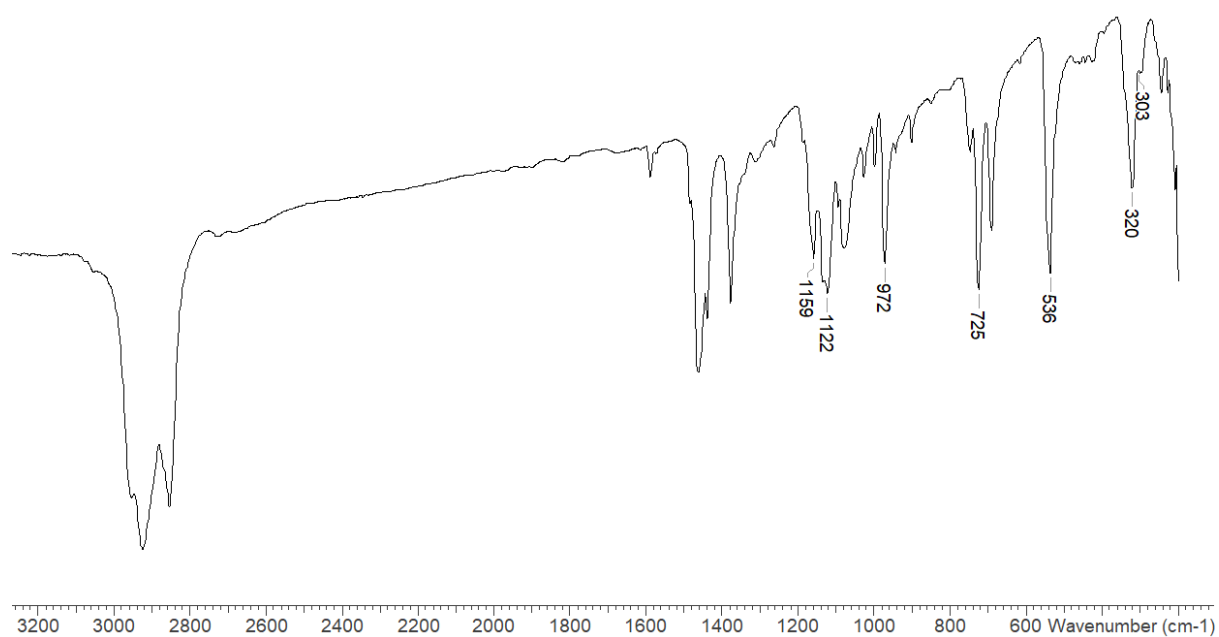


Figure 35: IR spectrum of $\text{MoOCl}_4 + \text{OPPh}_3$.

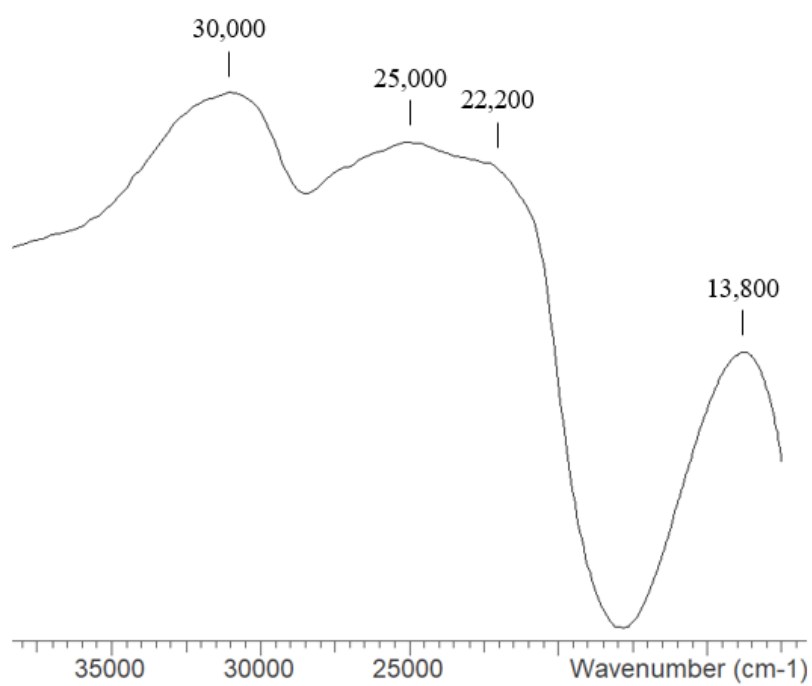


Figure 36: Solid-State UV-Vis spectrum from $\text{MoOCl}_4 + 2,2'\text{-bipy}$.

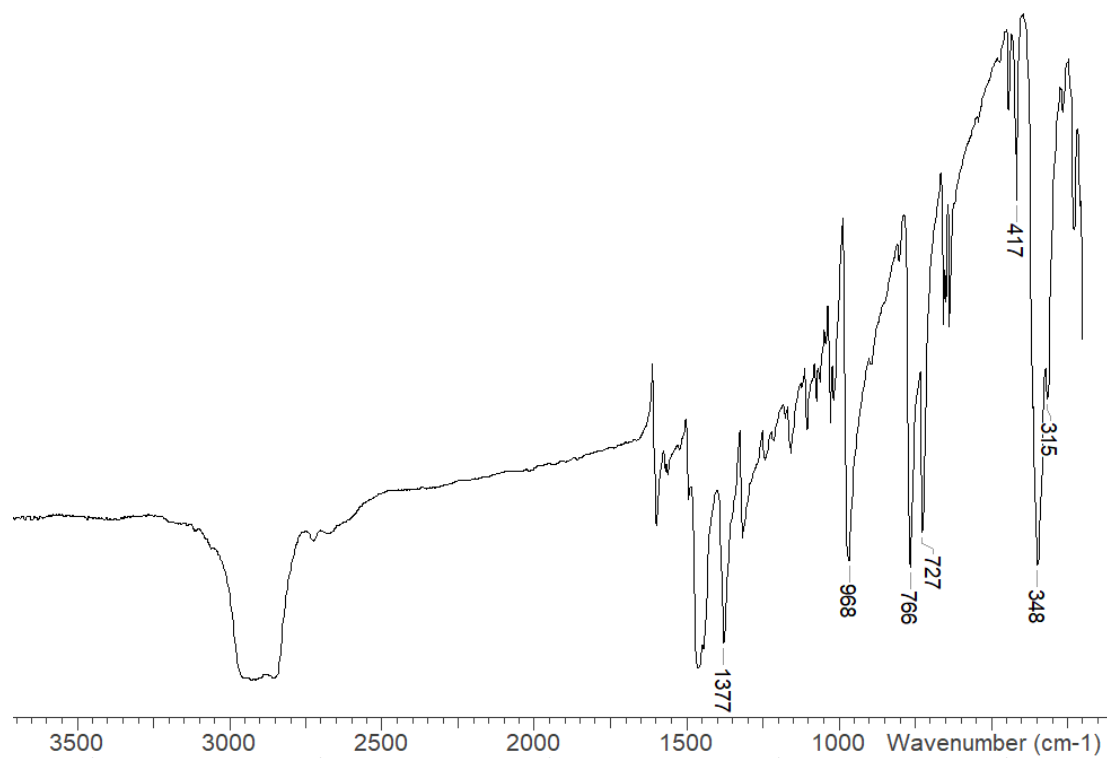


Figure 37: IR spectrum of $\text{MoOCl}_4 + 2,2'\text{-bipy}$.

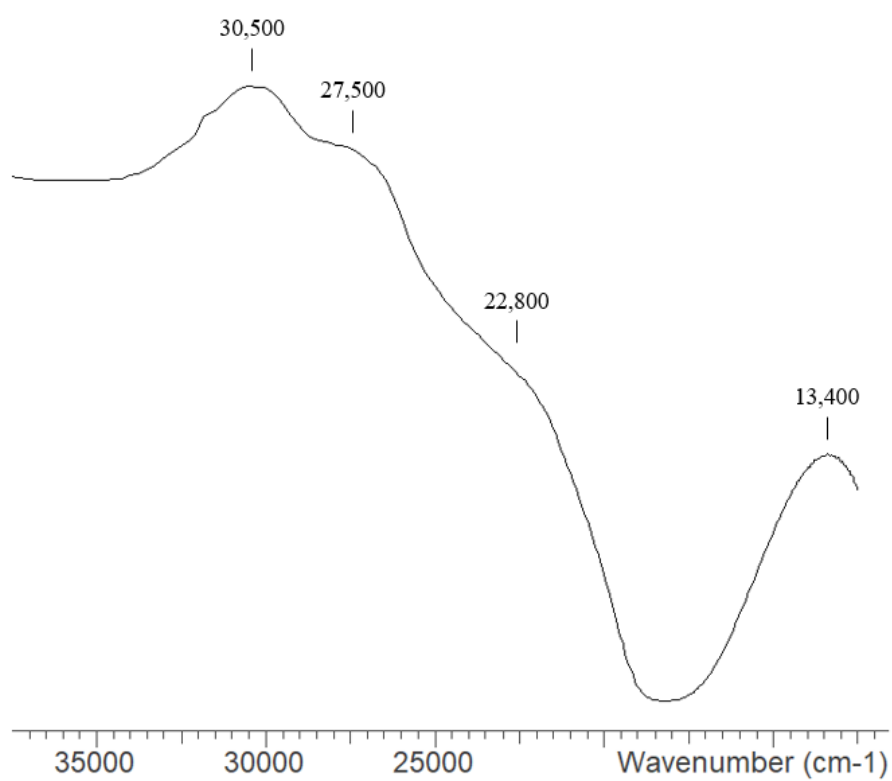


Figure 38: Solid-State UV-Vis spectrum from $\text{MoOCl}_4 + 1,10\text{-phen}$.

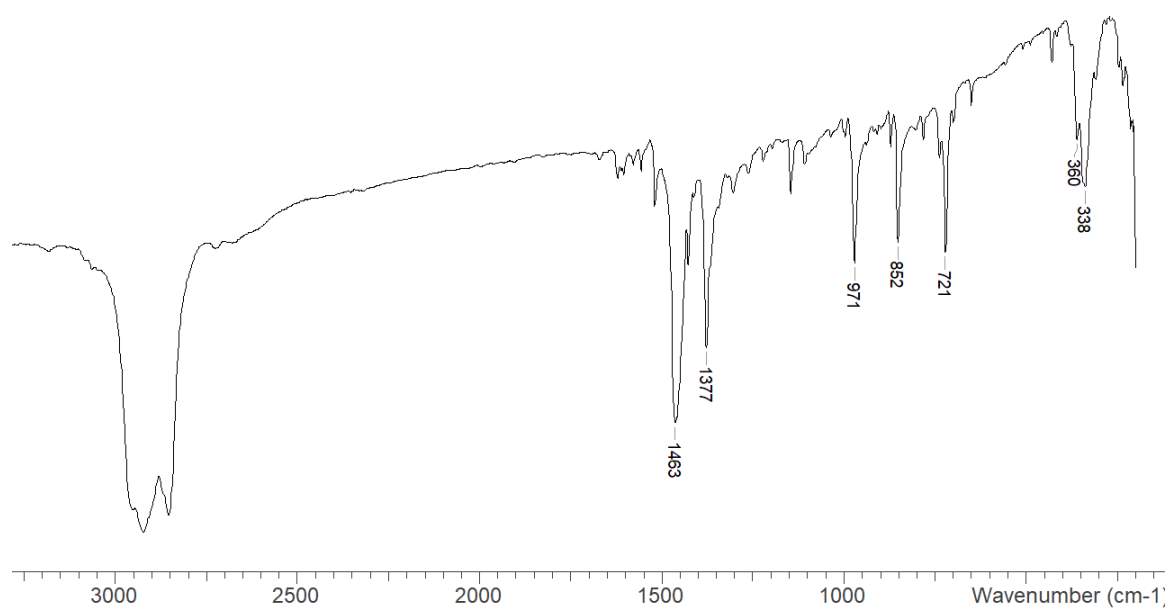


Figure 39: IR spectrum of MoOCl₄ + 1,10-phen.