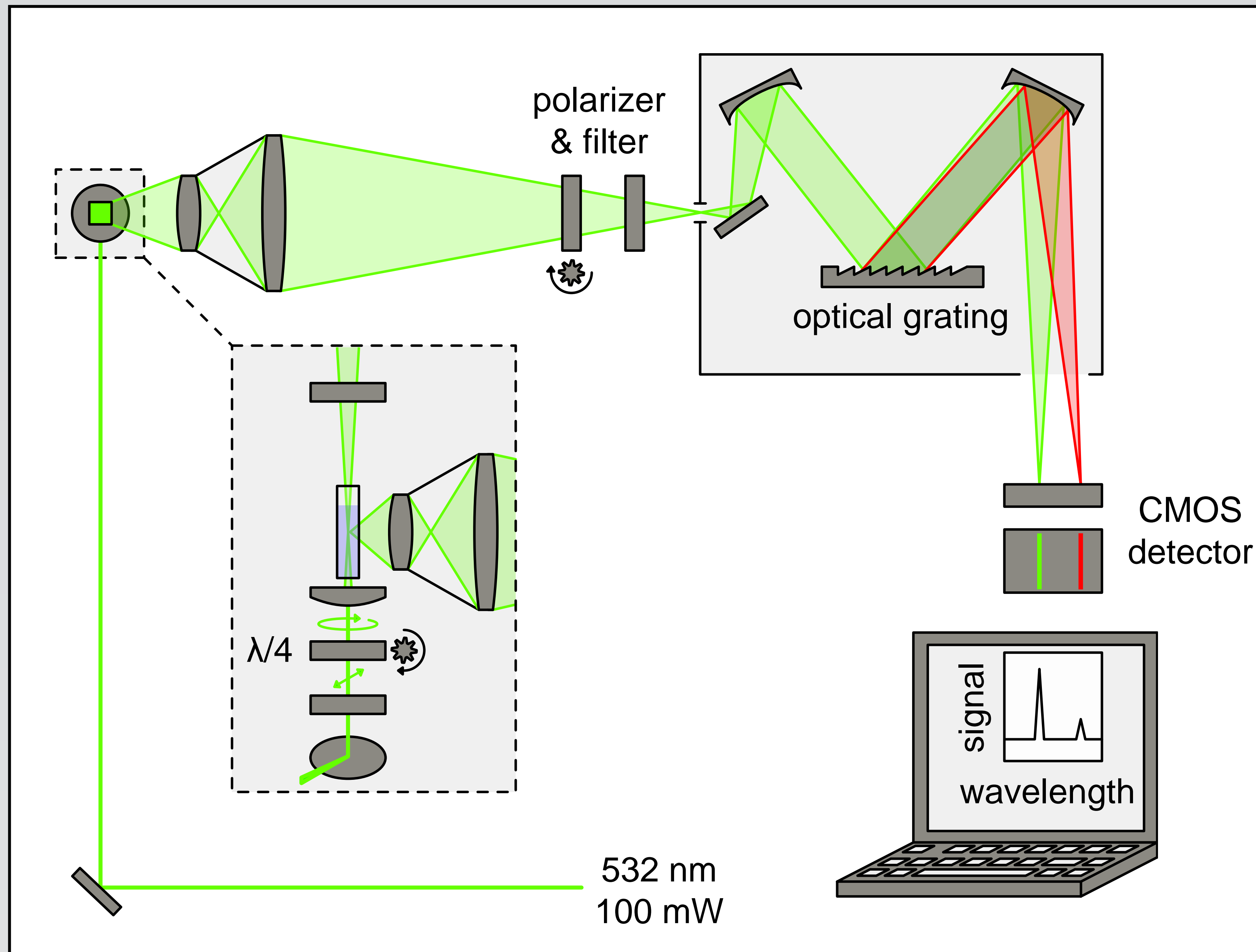


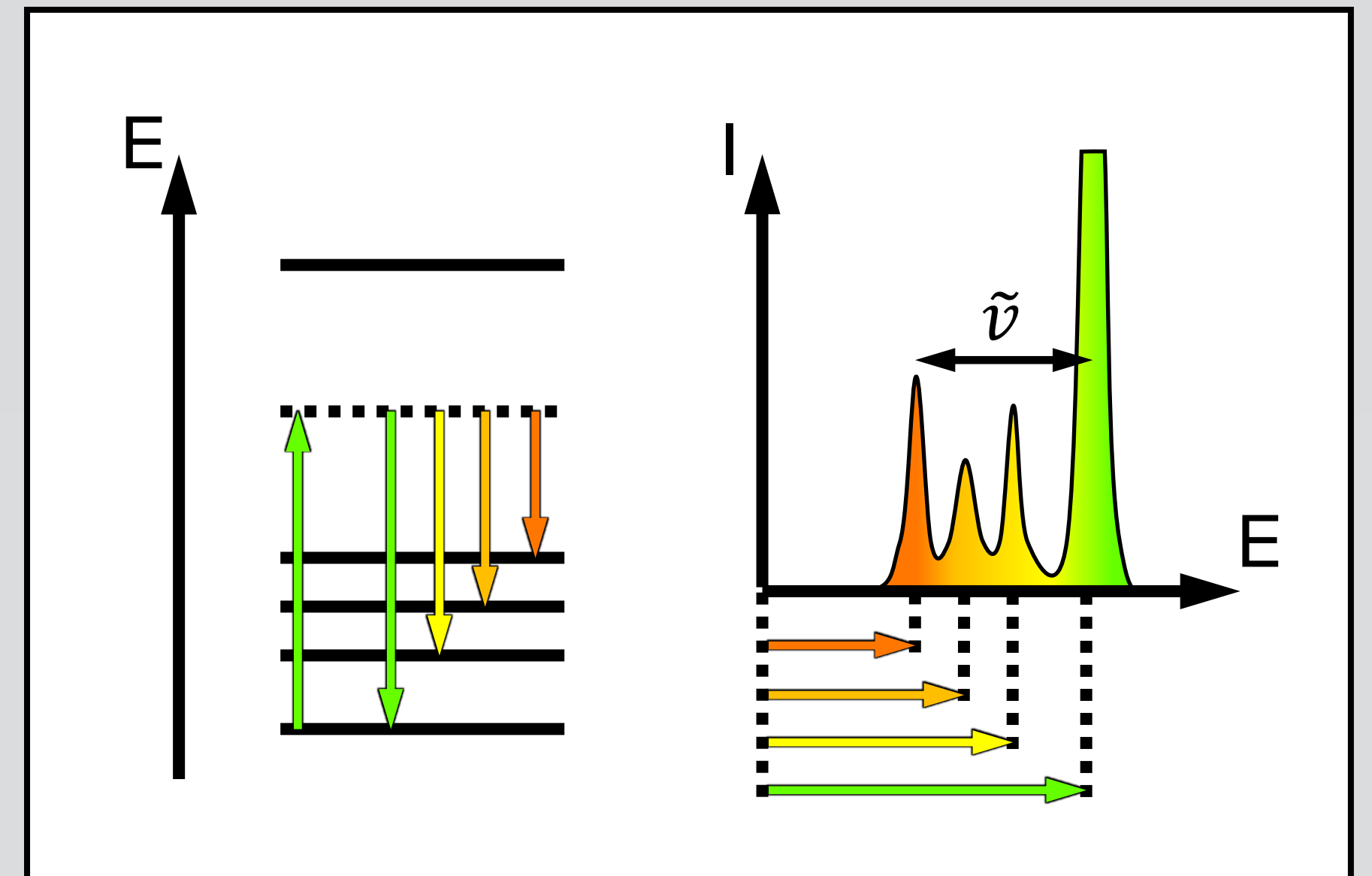
Setup Of A Spectrometer To Detect Raman Optical Activity

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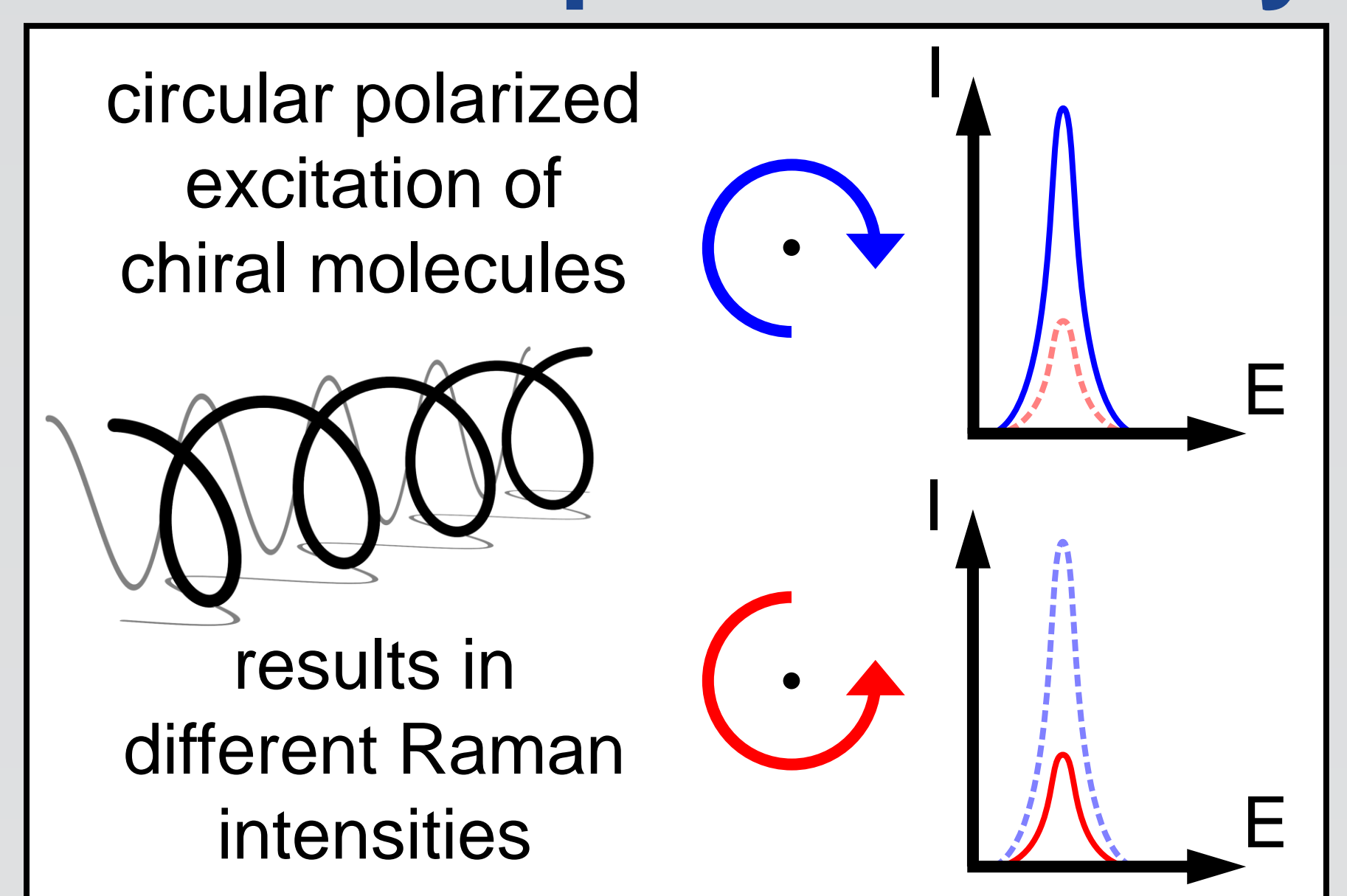
Experimental Setup



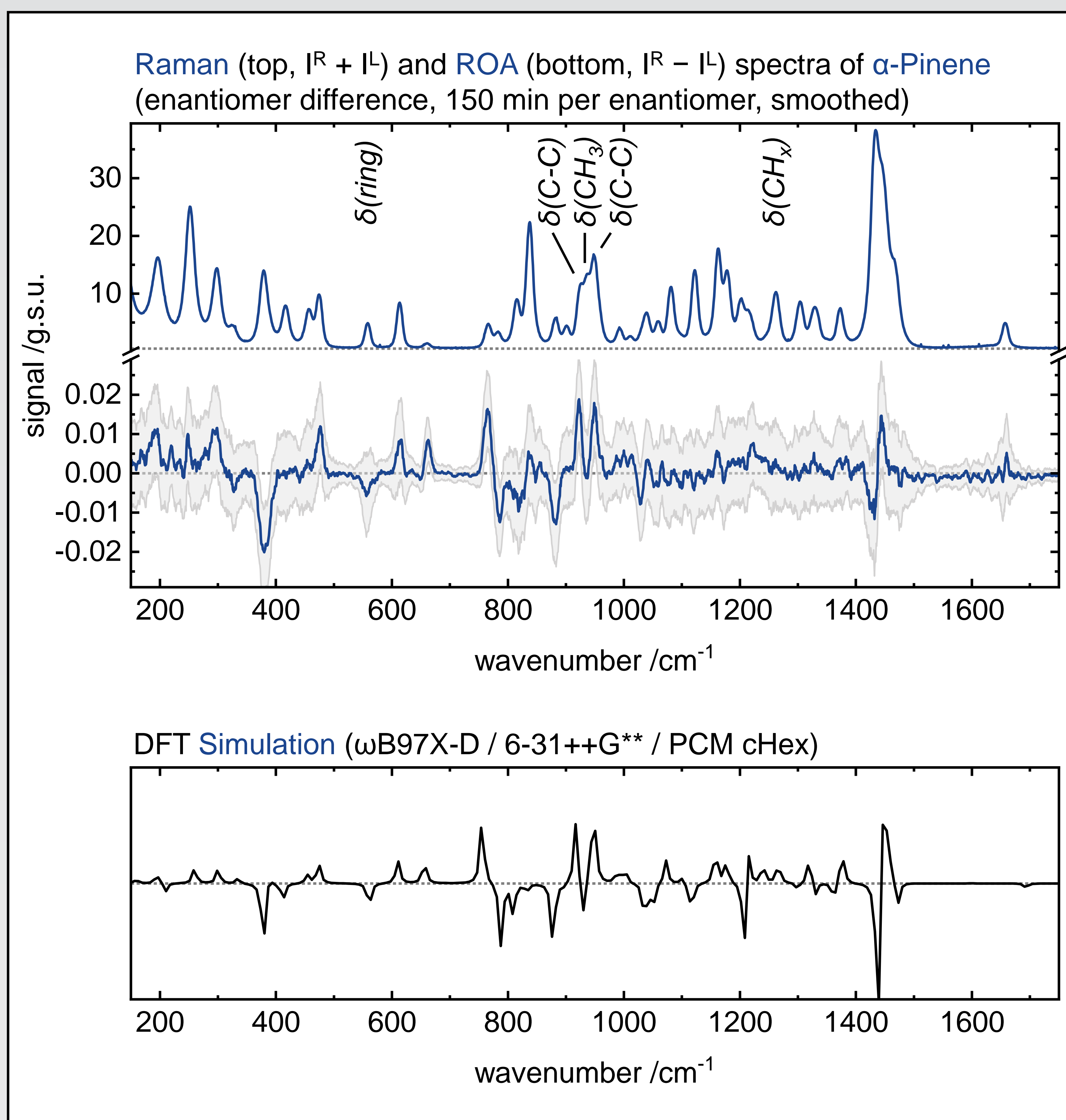
Raman Scattering



Raman Optical Activity

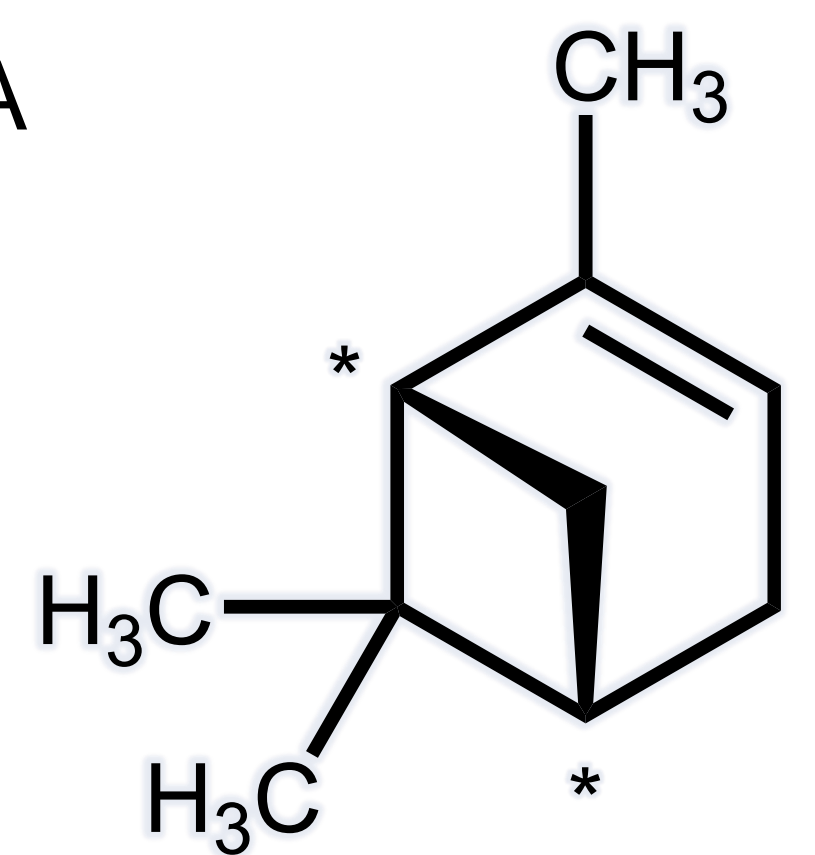


Results



α -Pinene

- common for ROA setup validation
- lots of vibrations delocalized over the stereocentres
- both enantiomers are commercially available (inexpensive and in high purity)



Challenges

- very small Raman intensity differences ($\sim 10^{-3}$)
- imperfect experimental setup causes false signals ("Artifacts")^[1]

Outlook

- backscatter geometry for higher signal-to-noise ratio^[2]
- „virtual enantiomer“ artifact correction scheme^[3]
- setup validation with multiple literature known samples
- ROA experiments of molecules with axial and helical chirality

References

- [1] D. Che, L. A. Nafie, *Appl. Spectrosc.* **1993**, 47, 544–555
- [2] L. Hecht, L. D. Barron, W. Hug, *Chem. Phys. Lett.* **1989**, 158, 341–344
- [3] W. Hug, *Appl. Spectrosc.* **2003**, 57, 1–12



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