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## FTIR Spectroscopic and Theoretical Study of Matrix-Isolated (*E*)-1-(cyclopropyldiazenyl)naphthalen-2-ol

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Photochromic systems are important due to their industrial applications in variable optical transmission materials and optobioelectronic devices. For such applications, the organic photochromic compounds involved are usually incorporated in polymers, liquid crystalline materials, or other convenient host matrices [1, 2]. Herein, a photochromic compound, (*E*)-1-(cyclopropyldiazenyl)naphthalen-2-ol (show in Figure 1), which was synthesized by a published method [3] and characterized, was isolated in a cryogenic argon matrix and its structure as well as UV-induced phototransformations were characterized by IR spectroscopy. The structures of the starting compound and of the generated photoproducts were identified by comparison of their experimental IR spectra with the spectra theoretically calculated at the DFT (B3LYP)/6-311++G(d,p) level for several possible tautomeric and rotameric forms.

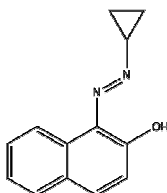


Figure 1 – Structure of (*E*)-1-(cyclopropyldiazenyl)naphthalen-2-ol.

### REFERENCES

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