

Product Information



CCVJ

Item No. 17870

CAS Registry No.: 142978-18-5

Formal Name: 2-cyano-3-(2,3,6,7-tetrahydro-1H,5H-benzo[ij]quinolizin-9-yl)-2-propenoic acid

Synonym: 9-(2-Carboxy-2-cyanovinyl)julolidine

MF: C₁₆H₁₆N₂O₂

FW: 268.3

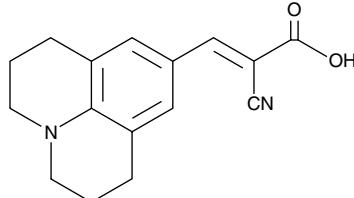
Purity: ≥95%

Stability: ≥2 years at -20°C

Supplied as: A crystalline solid

Special Conditions: Light and moisture sensitive

UV/Vis.: λ_{max}: 279, 441 nm



Laboratory Procedures

For long term storage, we suggest that CCVJ be stored as supplied at -20°C. It should be stable for at least two years.

CCVJ is supplied as a crystalline solid. A stock solution may be made by dissolving the CCVJ in the solvent of choice. CCVJ is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of CCVJ in these solvents is approximately 10 and 15 mg/ml, respectively.

CCVJ is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, CCVJ should first be dissolved in DMF and then diluted with the aqueous buffer of choice. CCVJ has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Fluorescent molecular rotors are molecules whose fluorescence is inversely proportional to its intramolecular rotation.¹ The intramolecular rotation of these probes, and hence their fluorescence, depends on the immediate microenvironment of the probe.¹ As a result, fluorescent molecular rotors are used to evaluate changes in solution and membrane viscosity, polymerization or aggregation processes, and protein (un)folding.²⁻⁴ CCVJ is a fluorescent molecular rotor characterized by low background fluorescence, low fluorescence anisotropy, and good water solubility.^{1,4-6} Moreover, CCVJ has large hydrophobic structures, allowing it to associate in a non-covalent manner with hydrophobic pockets in proteins in solution.¹ CCVJ is broadly used to monitor changes in solution and molecular characteristics.^{1,4,5}

References

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2. Haidekker, M.A., Ling, T., Angolo, M., *et al.* New fluorescent probes for the measurement of cell membrane viscosity. *Chem. Biol.* **8**(2), 123-131 (2001).
3. Iio, T., Itakura, M., Takahashi, S., *et al.* 9-(Dicyanovinyl)julolidine binding to bovine brain calmodulin. *J. Biochem.* **109**(4), 499-502 (1991).
4. Hawe, A., Filipe, V., and Jiskoot, W. Fluorescent molecular rotors as dyes to characterize polysorbate-containing IgG formulations. *Pharm. Res.* **27**(2), 314-326 (2010).
5. Ablinger, E., Leitgeb, S., and Zimmer, A. Differential scanning fluorescence approach using a fluorescent molecular rotor to detect thermostability of proteins in surfactant-containing formulations. *Int. J. Pharm.* **441**, 255-260 (2013).
6. Levitt, J.A., Chung, P.H., Kuimova, M.K., *et al.* Fluorescence anisotropy of molecular rotors. *Chemphyschem.* **12**, 662-672 (2011).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/17870

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

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