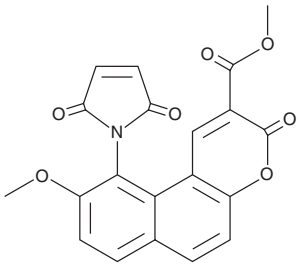
PRODUCT INFORMATION

ThioGlo1

Item No. 13235

CAS Registry No.:	137350-66-4
Formal Name:	10-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)-9-methoxy-3-oxo-H-naphtho[2,1-b]pyran-2-carboxylic acid, methyl ester
Synonym:	ThioGlo-1
MF:	$C_{20}H_{13}NO_7$
FW:	379.3
Purity:	≥95%
UV/Vis.:	λ_{max}: 216, 238, 244 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

ThioGlo1 is supplied as a crystalline solid. A stock solution may be made by dissolving the ThioGlo1 in the solvent of choice, which should be purged with an inert gas. ThioGlo1 is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of ThioGlo1 in these solvents is approximately 30 mg/ml.

ThioGlo1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ThioGlo1 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. ThioGlo1 has a solubility of approximately 0.50 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

ThioGlo1 is a thiol-reactive fluorescent probe.[1-3] Upon reaction with a thiol group, a fluorescent adduct is formed that displays excitation/emission maxima of 384/513 nm, respectively.[1,2] It also reacts with sulfite to form a fluorescent adduct with similar spectral characteristics, and interference from sulfite during thiol determination must be accounted for using secondary methods. ThioGlo1 has been used to monitor the oxidative stability of beer.

References

1. Yang, J.-R. and Langmuir, M.E. Synthesis and properties of a maleimide fluorescent thiol reagent derived from a naphthopyranone. *J. Heterocycl. Chem.* **28(5)**, 1177-1180 (1991).
2. Hoff, S., Larsen, F.S., Anderson, M.L., *et al.* Quantification of protein thiols using ThioGlo 1 fluorescent derivatives and HPLC separation. *Analyst* **138(7)**, 2096-2103 (2013).
3. Lund, M.N. and Andersen, M.L. Detection of thiol groups in beer and their correlation with oxidative stability. *J. Am. Soc. Brew. Chem.* **69(3)**, 163-169 (2011).

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