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产品名称: 5-[[4-[4-(2,2-二苯基乙烯基)苯基]-1,2,3,3A,4,8B-六氢环戊烯并[B]吡啶-7-基]亚甲基]-2-(3-乙基-4-氧代-2-硫酮-5-噻唑亚基)-4-氧代-3-噻唑烷乙酸
产品别名: D149 Dye ; D149; Indoline dye D149

生物活性:					
Description	D149 Dye is an indoline-based dye, which is a high-extinction-coefficient metal-free organic sensitizer.				
In Vitro	D149 is a metal-free organic dye, which is promising all-organic alternatives. D149 displays power conversion efficiency of up to 9%. Furthermore, D149 has a peak extinction co-efficient of 68700 M ⁻¹ cm ⁻¹ at 540 nm, significantly higher than 13900 M ⁻¹ cm ⁻¹ at 535 nm for N719[1]. D149, a metal-free indoline dye, is one of the most promising sensitizers for dye-sensitized solar cells (DSSCs) and has shown very high solar energy conversion efficiencies of 9%. D149 shows a large number of unresolved aromatic and olefinic signals between 7 and 7.5 ppm[2]				
Solvent&Solubility	In Vitro: DMSO : ≥ 21 mg/mL (28.30 mM) * "≥" means soluble, but saturation unknown.				
	Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
		1 mM	1.3478 mL	6.7391 mL	13.4782 mL
		5 mM	0.2696 mL	1.3478 mL	2.6956 mL
		10 mM	0.1348 mL	0.6739 mL	1.3478 mL
*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液。一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。 储备液的保存方式和期限: -80°C, 6 months; -20°C, 1 month (protect from light)。-80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。					
References	[1]. Lin J, et al. 3D hierarchical rutile TiO2 and metal-free organic sensitizer producing dye-sensitized solar cells 8.6% conversion efficiency. Sci Rep. 2014 Aug 29;4:5769. [2]. El-Zohry A, et al. Isomerization and Aggregation of the Solar Cell Dye D149. J Phys Chem C Nanomater Interfaces. 2012 Dec 20;116(50):26144-26153.				
实验参考:					
Cell Assay	The porous TiO ₂ films are immersed in a 0.5 mM D149 (1-material) dye solution in a 1:1 (v/v) mixture of acetonitrile (HPLC) and <i>tert</i> -butanol (LR) overnight once their temperature decreased to approximately 110°C. The samples are then taken out of the dye bath, washed with acetonitrile, and dried. The working electrode and Pt counter electrode [produced using a pre-drilled piece of 2.3 mm FTO glass, coated with one drop of 10 mM platinic acid solution [H ₂ PtCl ₆] and heated to 400°C for 20 min] are assembled into a sandwich type cell and sealed with a spacer of 25 μm Surlyn. An I ⁻ /I ₃ ⁻ organic solvent based electrolyte solution [50 mM iodine, 0.6 M 1,2-dimethyl-3-propylimidazolium iodide, 0.1 M lithium iodide in methoxypropionitrile] is introduced via vacuum back-filling. The hole is sealed with a piece of aluminium foil-backed Surlyn[1].				
	[1]. Lin J, et al. 3D hierarchical rutile TiO2 and metal-free organic sensitizer producing dye-sensitized solar cells 8.6% conversion efficiency. Sci Rep. 2014 Aug 29;4:5769.				



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