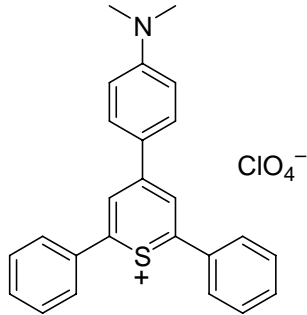


Iodide



Iodide ionophore I

4-[4-(Dimethylamino)phenyl]-2,6-diphenylthiopyrylium perchlorate
 $C_{25}H_{22}ClNO_4S$ M, 467.96 [14039-00-0]

[61928](#)

Selectophore[®], function tested

10 mg, 100 mg

Electrochemical Transduction

Ion-Selective Electrodes

Application 1 and Sensor Type¹

Assay of I⁻ activity with solvent polymeric electrodes based on Iodide ionophore I.

Recommended Cell Assembly

Reference || sample solution || ion-selective membrane | 0.001 M KI | AgCl, Ag

Recommended Membrane Composition

5 wt% Iodide ionophore I ([61928](#))
 2 wt% Hexadecyltrimethyl-ammonium bromide ([52367](#))
 63 wt% Dibutyl phthalate (DBP) ([80100](#))
 30 wt% Poly(vinyl chloride) high molecular weight ([81392](#))

Electrode Characteristics and Function

Selectivity coefficients $\log K_{I, X}^{\text{Pot}}$ as obtained by the matched potential method, acc. to lit .

$\log K_{I, \text{Cl}}^{\text{Pot}}$	-4.3	$\log K_{I, \text{NO}_3}^{\text{Pot}}$	-4.1
$\log K_{I, \text{Br}}^{\text{Pot}}$	-4.2	$\log K_{I, \text{CN}}^{\text{Pot}}$	-2.9
$\log K_{I, \text{SCN}}^{\text{Pot}}$	-2.8	$\log K_{I, \text{ClO}_4}^{\text{Pot}}$	-3.5
$\log K_{I, \text{S}_2\text{O}_3}^{\text{Pot}}$	-3.0	$\log K_{I, \text{IO}_3}^{\text{Pot}}$	-4.0
$\log K_{I, \text{SO}_3}^{\text{Pot}}$	-3.0	$\log K_{I, \text{CrO}_4}^{\text{Pot}}$	-3.3
$\log K_{I, \text{SO}_4}^{\text{Pot}}$	-4.6	$\log K_{I, \text{Citrate}}^{\text{Pot}}$	-4.6
$\log K_{I, \text{HCO}_3}^{\text{Pot}}$	-3.4	$\log K_{I, \text{Salicylate}}^{\text{Pot}}$	-4.1
$\log K_{I, \text{CO}_2}^{\text{Pot}}$	-3.4	$\log K_{I, \text{Ascorbate}}^{\text{Pot}}$	-4.1
$\log K_{I, \text{NO}_2}^{\text{Pot}}$	-3.3		

Slope of linear regression: - 57 to - 58 mV/decade

Nernstian electrode response (1×10^{-3} to 1×10^{-1} M KI)

Detection limit: $\log a_i \sim -3.1$

¹ T. Poursaberi, M. Hosseini, M. Taghizadeh, H. Pirelahi, M. Shamsipur, M.R. Ganjali, A selective membrane electrode for iodide ion based on a thiopyrilium ion derivative as a new ionophore, **Microchem. Journ.** 72, 77 (2002).