INSTRUCTIONS

p-Bromophenacyl-8™ Reagent

TS-48891

1521.0

Number	Description
TS-48891	***p*-Bromophenacyl-8™ Reagent,** 10 ml Hypo-Vial™ Storage Vial, contains 0.1 mmol/ml *p*-bromophenacyl bromide and 0.005 mmol/ml crown ether in acetonitrile
	Molecular Weight: 277.94
	λ_{max}: 260 nm
	Storage: Upon receipt store product at room temperature.

Introduction

p-Bromophenacyl-8™ Reagent is an excellent derivatization reagent that reacts with carboxylic acids. This reagent is used for preparing phenacyl esters, which are used to separate many saturated and unsaturated fatty acids[1-2] for UV detection in HPLC applications with low nanomole sensitivity. *p*-Bromophenacyl-8™ Reagent is also useful for studying acid composition of bacterial cell walls.[3-4]

Procedure for Preparing Phenacyl Esters

1. Dissolve ~10 mg acid in MeOH in a 5.0 ml Reacti-Vial™ Small Reaction Vial (Product No. TS-13223) fitted with a magnetic stirrer (Product No. TS-16000). Neutralize to the phenolphthalein endpoint with 85% KOH in MeOH.

   Note: If the formation of potassium salts is undesirable, instead of using KOH, neutralize by adding $KHCO_3$ at 3-5 times the molar equivalent of the free acid.

2. Evaporate the MeOH with N_2.
3. Add 1.0 ml of *p*-Bromophenacyl-8™ Reagent and 2.0 ml dry acetonitrile to the reaction vial.
4. Heat reaction at 80°C with stirring for 30 minutes.
5. Remove reaction vial from the heating block and allow it to cool.
6. Analyze solution by HPLC. Use a reverse phase C_{18} column with acetonitrile and water as the mobile phase.

Cited References

1. Ahmed, M. S., *et al.* (1980). Use of *p*-bromophenacyl bromide to enhance ultraviolet detection of water-soluble organic acids (steviolbioside and rebaudioside B) in high-performance liquid chromatographic analysis. *J. Chromatogr.* **192:**387-93.
2. Borch, R. F. (1975). Separation of long chain fatty acids as phenacyl esters by high pressure liquid chromatography. *Anal. Chem.* **47(14):**2437-9.
3. Manzoor, S. E., *et al.* (1999). Reduced glutaraldehyde susceptibility in *Mycobacterium chelonae* associated with altered cell wall polysaccharides. J. Antimicrob. Chemother. **43:**759-765.
4. Sokolovská, I., *et al.* (2003). Carbon source-induced modifications in the mycolic acid content and cell wall permeability of *Rhodococcus erythropolis* E1. *Appl. Environ. Microbiol.* **69(12):**7019-27.

General Reference

Knapp, D. R. (1979). Handbook of analytical derivatization reactions. John Wiley and Sons, New York; Chapter 3.

Current versions of product instructions are available at *www.thermo.com/columns*.