

Notes for Practical Use of SUMICHIRAL OA

OA-1000, OA-2000, OA-2000S, OA-2200, OA-2500, OA2500S, OA-3100, OA-3100R, OA-3200, OA-3200R, OA-3300, OA-3300S, OA-4000, OA-4000R, OA-4100, OA-4100R, OA-4400, OA-4400R, OA-4500, OA-4500R, OA-4600, OA-4600R, OA-4700, OA-4700R, OA-4800, OA-4900

1) General precaution

The column should not be given a strong shock, that may cause deterioration of the column.

The direction of flow, " IN " and " OUT ", is marked on the column.

It is recommended to condition the column enough with the mobile phase before using.

2) Preparation of sample solution

It is recommended to dissolve the sample in the solvent used as the mobile phase.

The sample solution should be filtered with the membrane filter to remove the undissolved matter.

The impurities such as protein and polypeptide etc. should be removed.

3) Preparation of mobile phase

Various solvent systems including normal and reversed phase can be used. In reversed phase it is recommended to use ammonium acetate in methanol.

Water should not be used, that may cause deterioration of the column.

Hexane tetrahydrofuran, 2-propanol ethanol, methanol, etc. can be used as a normal phase solvent. Usually, hexane is used with a moderate polar solvent such as tetrahydrofuran or a highly polar solvent such as ethanol for the adjustment of the polarity. Ethyl acetate and acetone should not be used, that may cause deterioration of the column.

The addition of small amount (0.1 ~ 0.5%) of acids or amines is effective in order to obtain the good separation for acidic or basic enantiomers using normal phase solvent

systems.

In the case of the separation of weakly polar enantiomers such as ester using a normal phase solvent system, usually a nonpolar solvent such as hexane is used and , sometimes, the addition of a small amount of a polar solvent such as alcohol is effective.

The addition of a small amount of salt is effective to obtain the efficient enantiomer separation for ionic compounds using reversed phase solvent systems.

4) Temperature and pressure

The column temperature should be controlled under 50 .

The flow rate of mobile phase is usually set at 0.5 ~ 1.0 mL/min. in order to control the inner pressure of columns under 19.6MPa.

5) Care and maintenance

The use of guard column is effective to maintain the performance of main columns.

It is recommended to wash thoroughly the column after the use of mobile phases containing acids, bases and salts.

When the column is stored for a long time the solvent containing in column should be replaced by hexane/ethanol (99:1) (in normal phase) or methanol (in reversed phase).

It is recommended the column is used exclusively in the normal phase solvent system or the reversed phase solvent system.

Never remove the end fittings from the column end.

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