Example:
Separation of lipoprotein (VLDL, LDL and HDL) from human serum in only 270 minutes

Lipoproteins that are included in serum have a close relation to metabolism of lipid, and they are noticed in the research field on hyperlipemia. This time, lipoproteins VLDL, LDL and HDL were separated from normal human serum with the newly developed fixed angle rotor that has the world's highest RCF of 1,050,000 x g.

1. Equipment used
   Centrifuge: Hitachi CS150GXL preparative micro ultracentrifuge
   Rotor: S140AT fixed angle rotor
      (Max. speed: 140,000 rpm, max. RCF: 1,050,000 x g, max. capacity: 2 ml x 10 tubes)
   Tube: 1PC tubes

2. Procedures and results
   FAT RED 7B was added to the sample in each right tube below for easier visual checking.
   (1)Separation of VLDL (Density<1.006 g/ml)

   ![Diagram of centrifugation process]

Note that the above VLDL fraction includes chylomicron.
(2) Separation of LDL (1.006 g/ml < Density < 1.063 g/ml)

Remove the 300 micro liters top layer of (1) (VLDL fraction).

Add 300 micro liters of specific gravity liquid B and mix them gently.

Centrifugation

140,000 rpm
80 min.,
16 degrees centigrade
ACCEL: 9
DECEL: 7

LDL

HDL, albumin, etc.

Note that the above LDL fraction includes IDL.

(3) Separation of HDL (1.063 g/ml < Density < 1.21 g/ml)

Remove the 300 micro liters top layer of (2) (LDL fraction).

Add 300 micro liters of specific gravity liquid C and mix them gently.

Centrifugation

140,000 rpm
140 min., 16 degrees centigrade
ACCEL: 9
DECEL: 7

HDL

Albumin, etc.

Specific gravity liquid A (Density: 1.006 g/ml):

Put 11.40 g of NaCl and 0.1g of EDTA-2Na in a 1,000 ml measuring flask. Add 500 ml of distilled water and 1 ml of 1N NaOH, and mix them well until they are dissolved. Add distilled water up to 1,000 ml and then add additional 3 ml of distilled water. (NaCl: 0.195 mol)

Specific gravity liquid B (Density: 1.182g/ml):

Add 24.98 g of NaBr to 100 ml of the specific gravity liquid A. (NaCl: 0.195 mol, NaBr: 2.44 mol)

Specific gravity liquid C (Density: 1.478g/ml):

Add 78.32 g of NaBr to 100 ml of the specific gravity liquid A. (NaCl: 0.195 mol, NaBr: 7.65 mol)