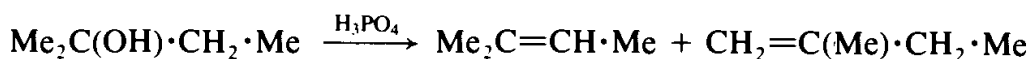


## Eliminação de água a partir de 1-butilciclo-hexanol

Análogo ao procedimento abaixo:

### Experiment 5.12 2-METHYLBUT-2-ENE (*in admixture with 2-METHYLBUT-1-ENE*)



Place 25.0 g (31 ml, 0.28 mol) of 2-methylbutan-2-ol and 10 ml of 85 per cent orthophosphoric acid in a 100-ml, round-bottomed flask and swirl to mix thoroughly. Fit the flask with a 20-cm fractionating column filled with glass helices, a Claisen still-head and a condenser leading to a 50-ml receiving flask cooled in a beaker of iced water (Fig. 2.104). Add a few pieces of porous porcelain and heat the reaction mixture gently with a Bunsen burner. Collect the alkene fraction which distils in the range 35–38 °C during a period of 30 minutes. Dry the distillate with 1–2 g of magnesium sulphate. Wash and dry the distillation apparatus, decant the dried distillate into a 50-ml flask and redistil in the reassembled apparatus. Collect the fraction boiling at 37–38 °C; the yield is 12.5 g (64%). Record the infrared spectrum of the product using a fixed path-length cell (0.025 mm). The stretching bands of the terminal ( $1645\text{ cm}^{-1}$ ) and non-terminal ( $1670\text{ cm}^{-1}$ ) carbon–carbon double bonds can both be observed; bands at  $890$  and  $805\text{ cm}^{-1}$  ( $=\text{C}-\text{H}$  deformation) also establish the presence of both terminal and non-terminal olefinic systems. Analyse the product by g.l.c. on a Silicone oil column at 30 °C; 2-methylbut-1-ene appears first, closely followed by 2-methylbut-2-ene; the areas under the peaks are in the ratio of 1:4.

Utilizar todo o 1-butilciclo-hexanol obtido no experimento anterior e calcular as quantidades correspondentes.