and methylcyclopentane contents of the reaction products at
these and at higher hydrogen pressures could be determined by
calculating the composition of the individual fractions from
their indices of refraction. The calculated content of cyclopen-
tane in fraction 1 was carried out for mixtures of cyclopentane
and pentanes (assuming n_D^{20} of pentanes to be 1.3560 and
considering n_D to be additive); for fraction 2 for mixtures of
cyclopentane and n-pentane; for fractions 3 and 4 for mixtures
of cyclopentane and isohexanes (av n_D^{20} 1.3750); for fraction 5
for mixtures of methylcyclopentans and isohexanes; and for fraction
7 for mixtures of methylcyclopentane and cyclohexane. Fraction
6 appeared to be pure methylcyclopentane. Fraction 3 had
aniline points of 16.4-18.5° (literature value for aniline
point of cyclopentane is 15.8°). The values for the yields of
cyclopentane and of unchanged methylcyclopentane were reduced
by 2% (relative) as an approximate correction for the presence
of unsaturated hydrocarbons.

Fig. 1 shows a typical distillation curve for the
reaction products and indicates the properties of the fractions
recovered.

Fig. 1. Distillation curve for the products of Expt.
No. 16, at 753.5 mm(0°). Fraction 1 (below 45.0°) n_D^{20} 1.3860,
3.3% unsaturated; fraction 2 (45.0-47.6°) n_D^{20} 1.3997, 1.8%
unsaturated; fraction 3 (47.6-51.3°) n_D^{20} 1.4046, 0.7% unsaturated;
fraction 4 (51.3-60.5°) n_D^{20} 1.4034, 0.7% unsaturated; fraction
5 (60.5-70.2°) n_D^{20} 1.4066, 0.7% unsaturated; fraction 6 (60.2-
72.3°) n_D^{20} 1.4097, 1.0% unsaturated; fraction 7 (70.3-80.0°)
n_D^{20} 1.4158, 0.8% unsaturated.