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## **APPENDICES**

## Appendix

### A-1 Calculation of selectivity to other hydrocarbons

#### % Selectivity of gas fraction and liquid fraction

$$\% \text{ Selectivity of X} = \frac{\text{concentration of X} \times 100}{\text{total concentration of fractions}}$$

$$\text{Concentration of X} = \frac{b \times c}{a}$$

a = Peak area of X in standard gas or liquid fraction

b = % molar of X in standard gas or liquid fraction

c = Peak area of X in sample products



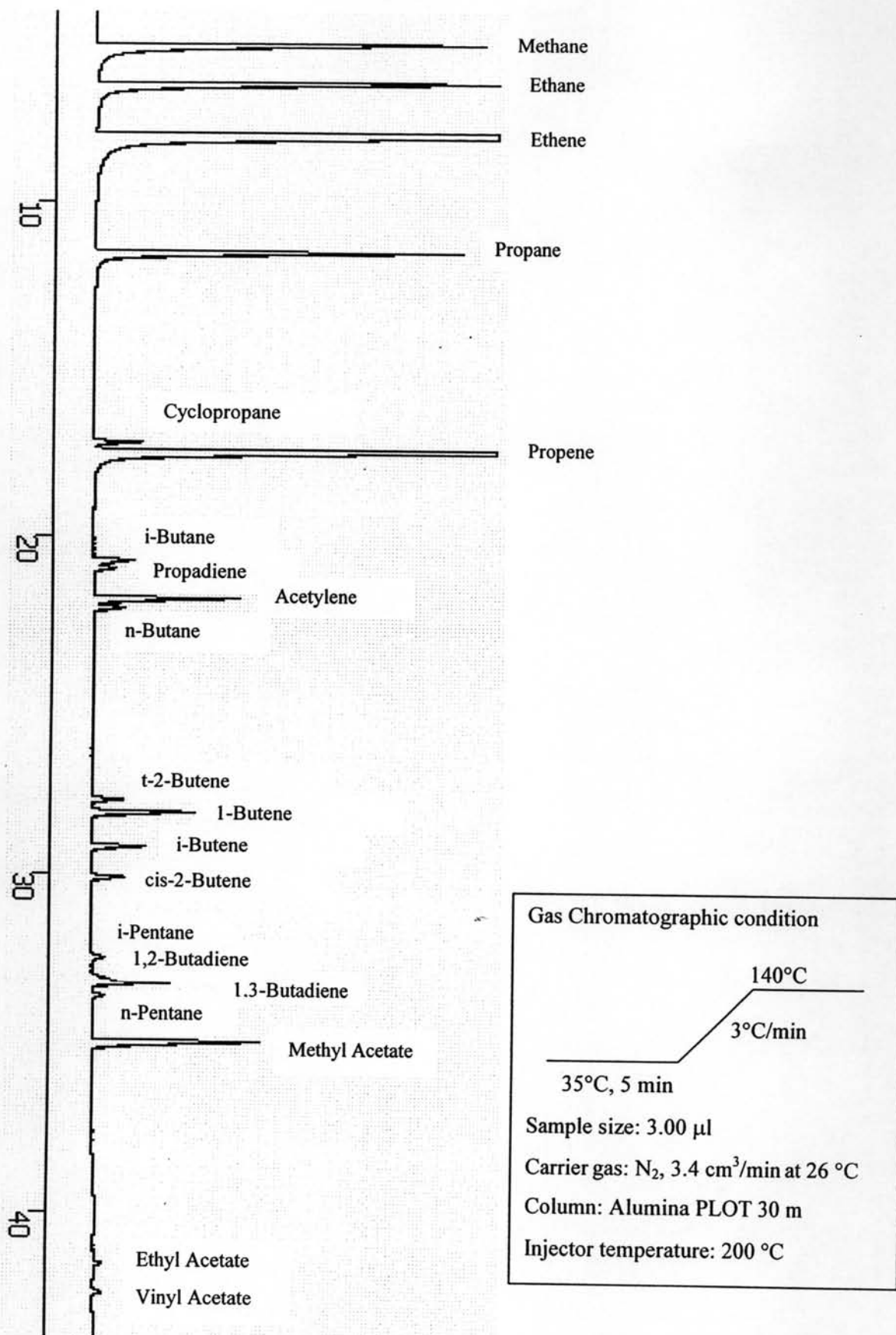
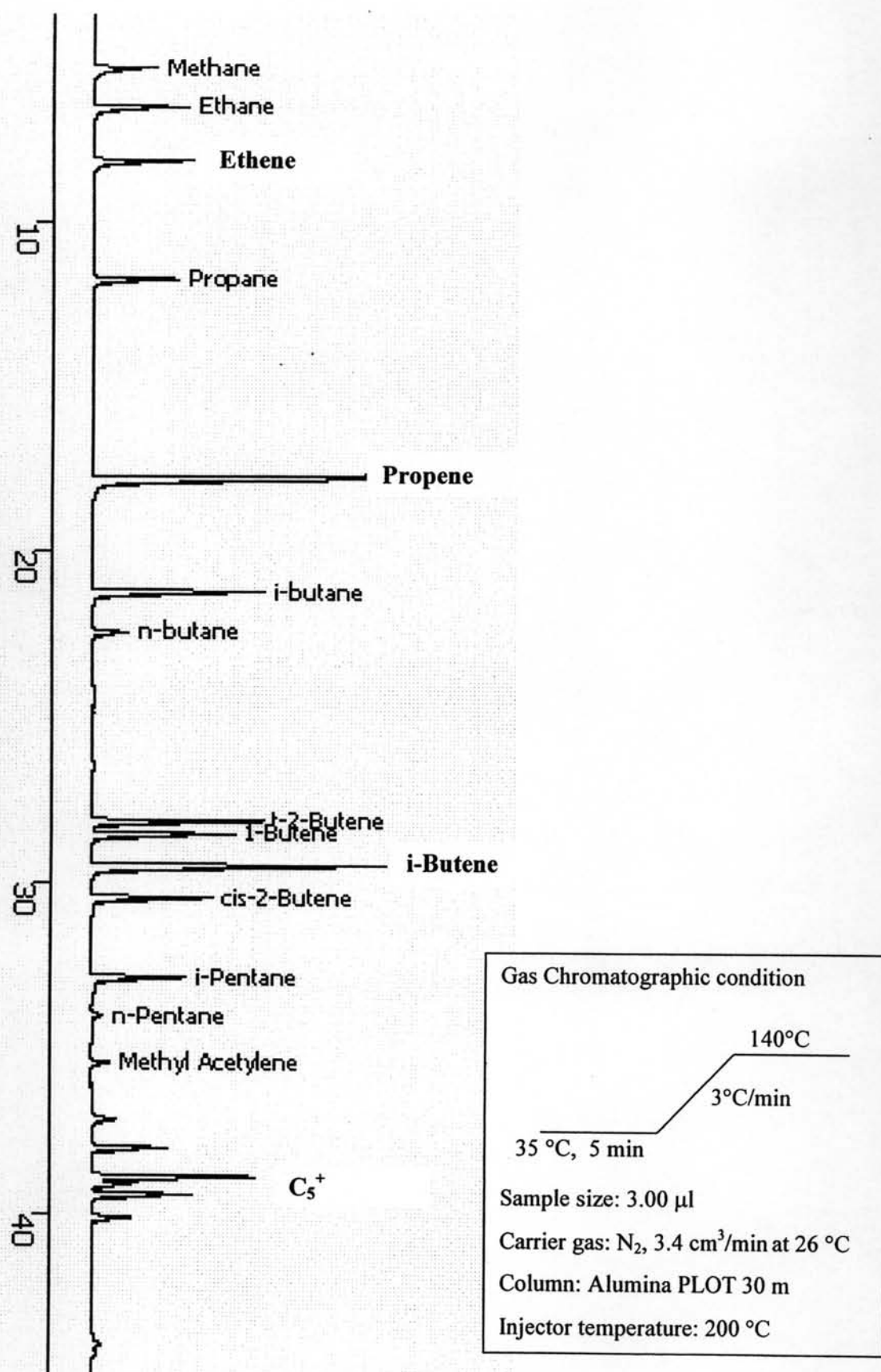
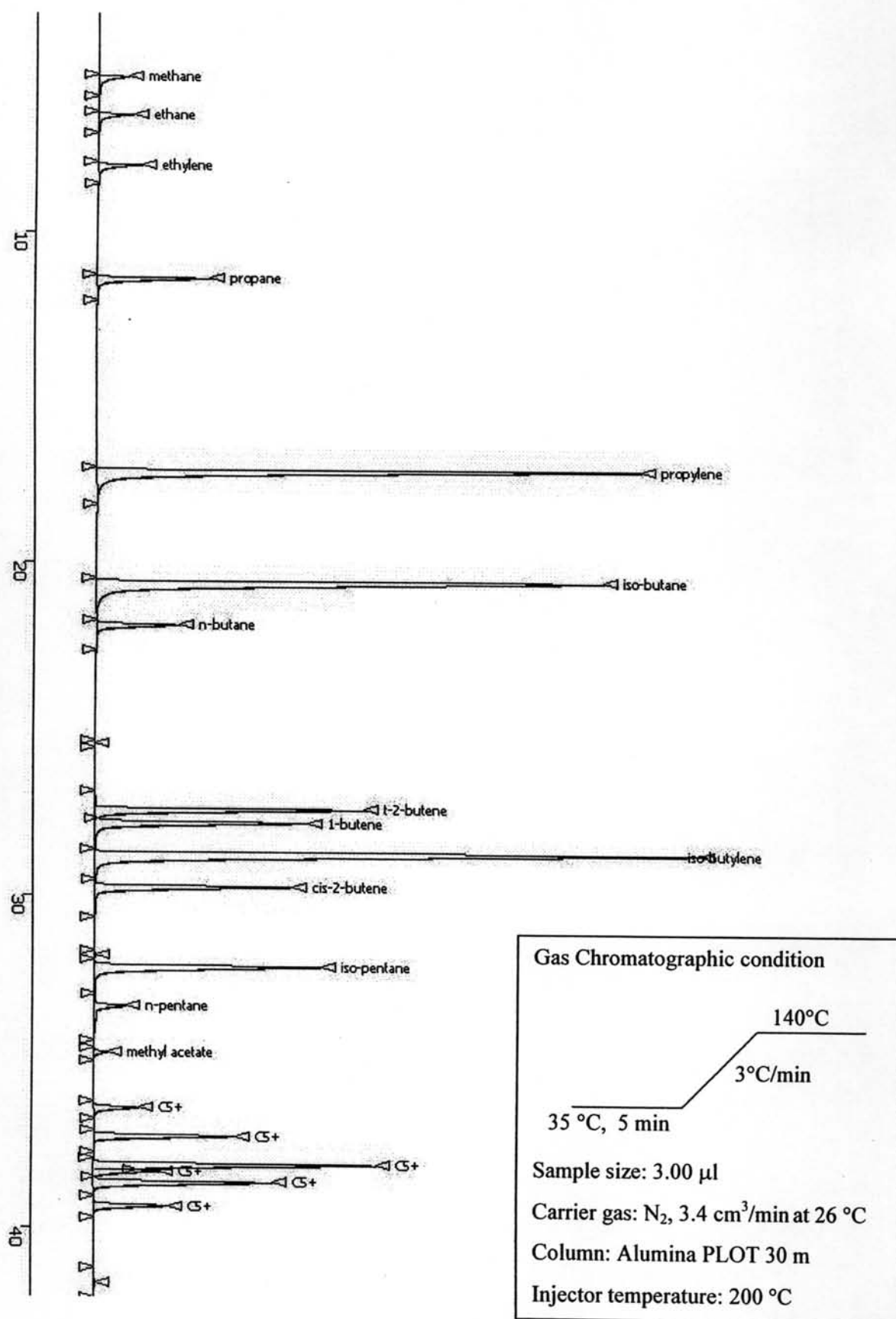


Figure A-1 Gas chromatogram of standard gas mixture.





**Figure A-2** Gas chromatogram of gas product obtained from catalytic cracking of PP over 95%Al-HMS mixed catalysts at 410°C.



**Figure A-3** Gas chromatogram of gas product obtained from catalytic cracking of HDPE over 5%Al-HMS mixed catalysts at 410°C.

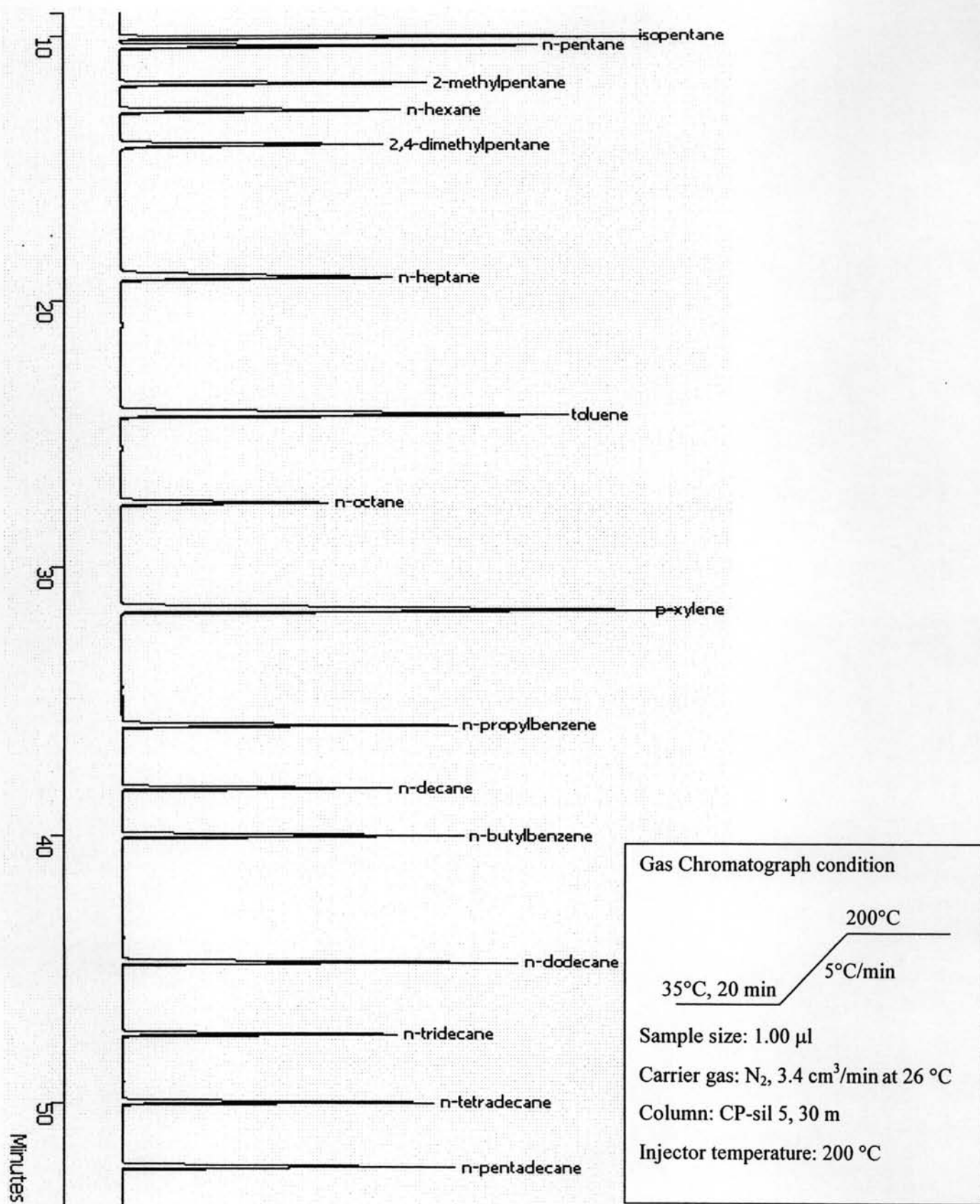
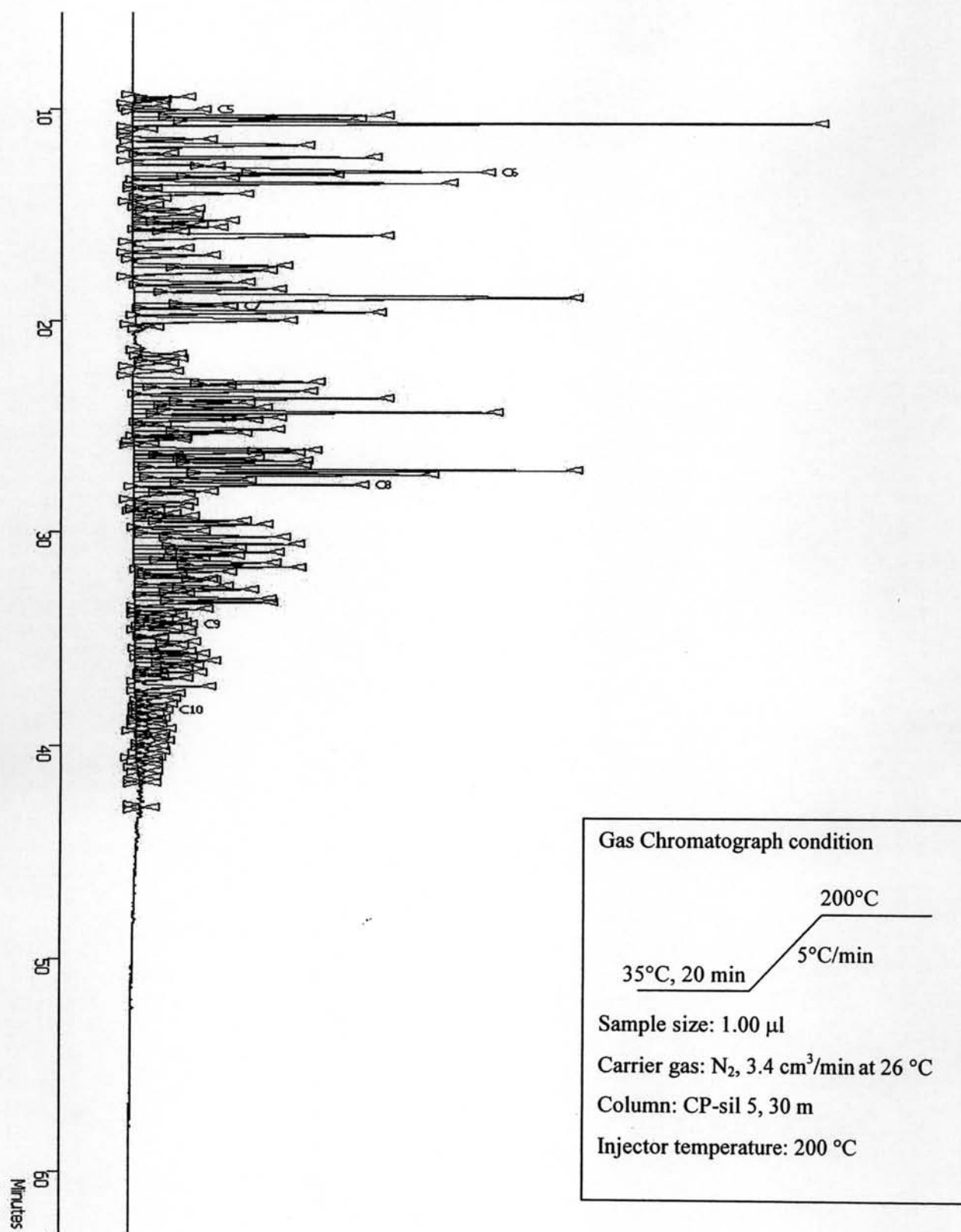
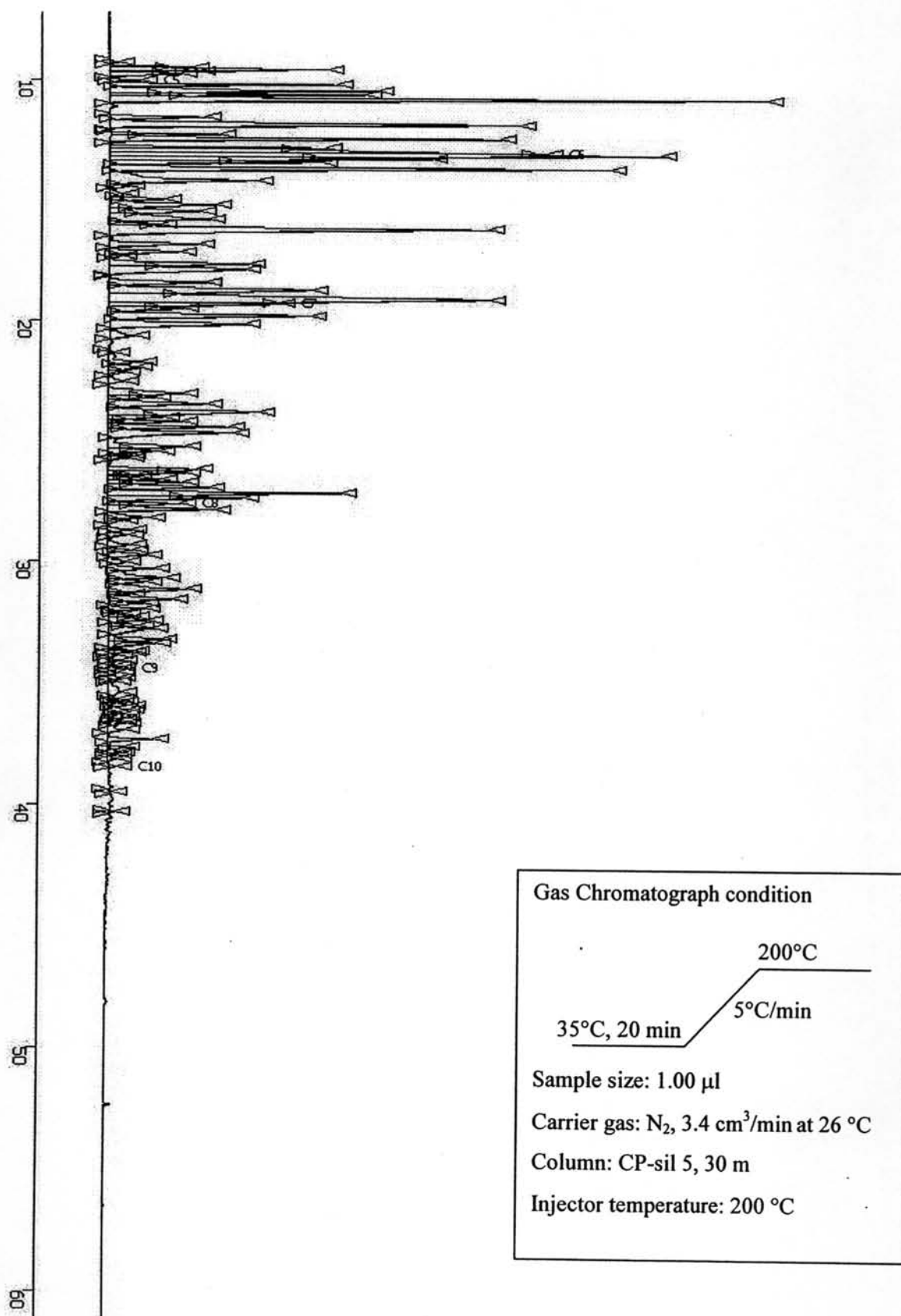


Figure A-4 Liquid chromatogram of standard gasoline (SUPELCO).



**Figure A-5** Liquid chromatogram of liquid product obtained from catalytic cracking of PP over 95%Al-HMS mixed catalysts at 410°C.



**Figure A-5** Liquid chromatogram of liquid product obtained from catalytic cracking of HDPE over 5%Al-HMS mixed catalysts at 410°C.

## VITAE

Ms. Nuriya Kache was born on January 16<sup>th</sup>, 1983 in Pattani, Thailand. She received a Bachelor Degree of Science, major in Chemistry from Prince of Songkhla University in 2004. Since 2004 she has been a graduate student in the program of Petrochemistry and Polymer Science, Faculty of Science, Chulalongkorn University and graduated in 2007.

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