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APPENDICES

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

APPENDIX A

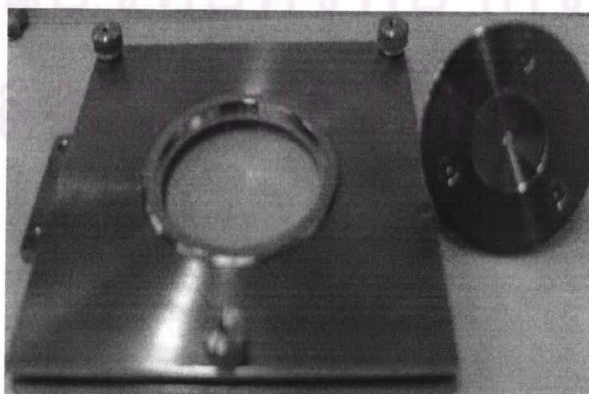
Picture of instruments and accessories



Nicolet Magna 750 Series II FT-IR spectroscopy



NICPLAN infrared microscope



Homemade accessory for adjusting the reflecting plane

APPENDIX B

1. Relevant spectra from library search

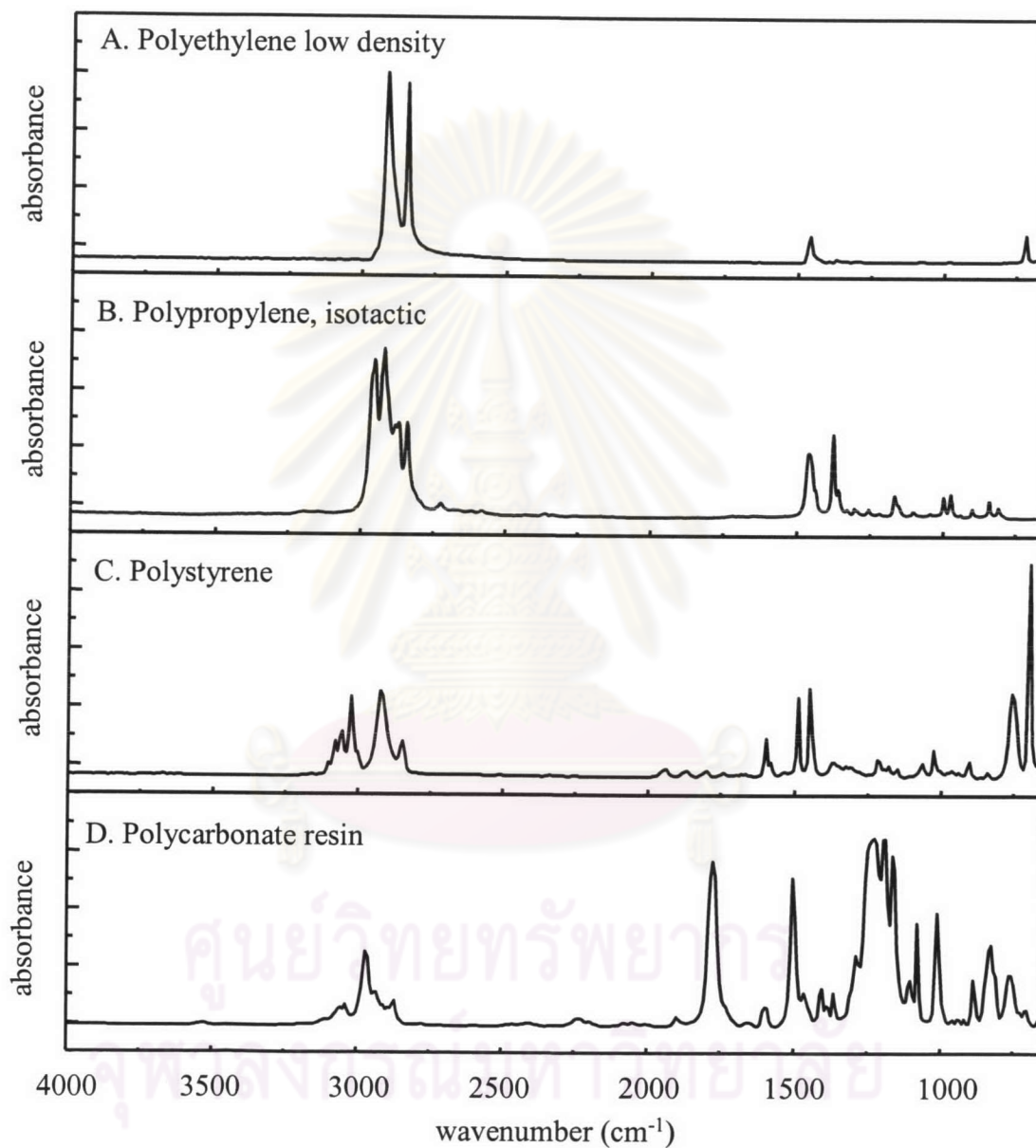


Figure 1 FT-IR spectra of polyethylene low density (A), polypropylene isotactic (B), polystyrene (C), and polycarbonate resin (D)

2. Spectrum of natural diamond

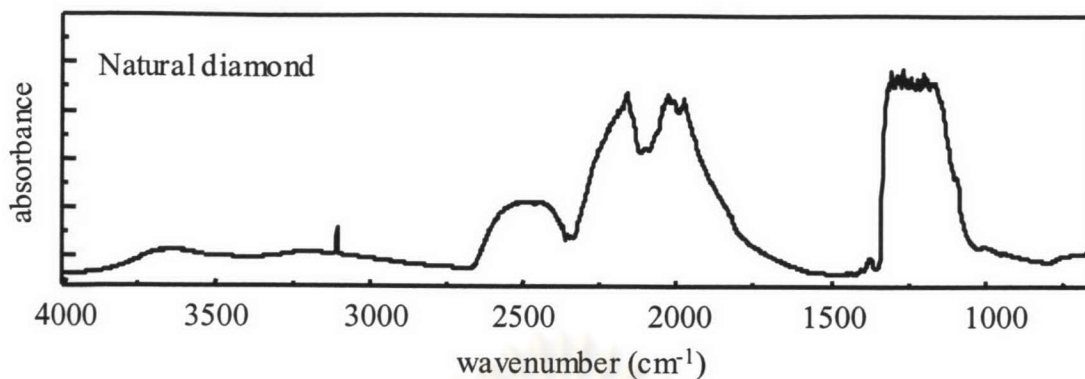


Figure 2 FT-IR spectra of natural diamond

Table 1 Peak assignments of natural diamond

Wavenumber (cm ⁻¹)	Peak assignment
<u>Natural diamond</u>	
3900-2650	Three-phonon absorption
2650-1500	Two-phonon absorption
1400-900	One-phonon absorption
4495, 3107, 2786, 1405	Hydrogen-impurity
1330, 1172, 1015	B-centered substitution of nitrogen in diamond crystal structure
<u>Water vapor and carbon dioxide gas</u>	
3900-3500, 1800-1400	Water vapor
2400-2300	Carbon dioxide gas

3. CHEMICAL AND PHYSICAL PROPERTIES OF DIAMOND



Figure 3 Diamond (A) and crystal structure (B)

Chemical composition	Carbon (C)
Hardness	10
Refractive index	2.417 (dispersion: 0.044)
Specific Gravity	3.515
Color	variable
Crystal System	isometric; $4/m\bar{3}2/m$
Transparency	transparent to translucent in rough crystals
Heat sensitivity	No
Luster	adamantine to waxy
Cleavage	perfect in 4 directions
Fracture	conchoidal

VITAE

Anan Jeenanong

- 1981 Born June, 23th in Bangkok, Thailand
Father : Mr. Tawat Jeenanong
Mother: Mrs. Supat Jeenanong
- 1993 Elementary School (Watakum School, Bangkok)
- 1996 Primary School (Rajchadumri, Bangkok)
- 1999 High School (Rajchavinitbangkraew, Samutprakarn)
- 2003 Bachelor of Science (Chemistry),
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