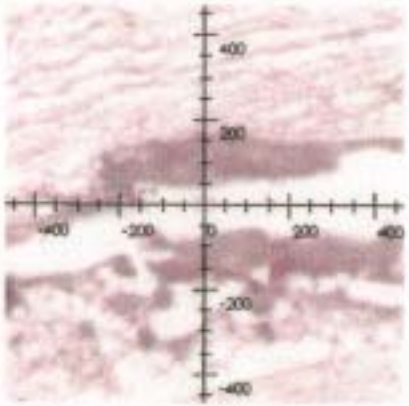
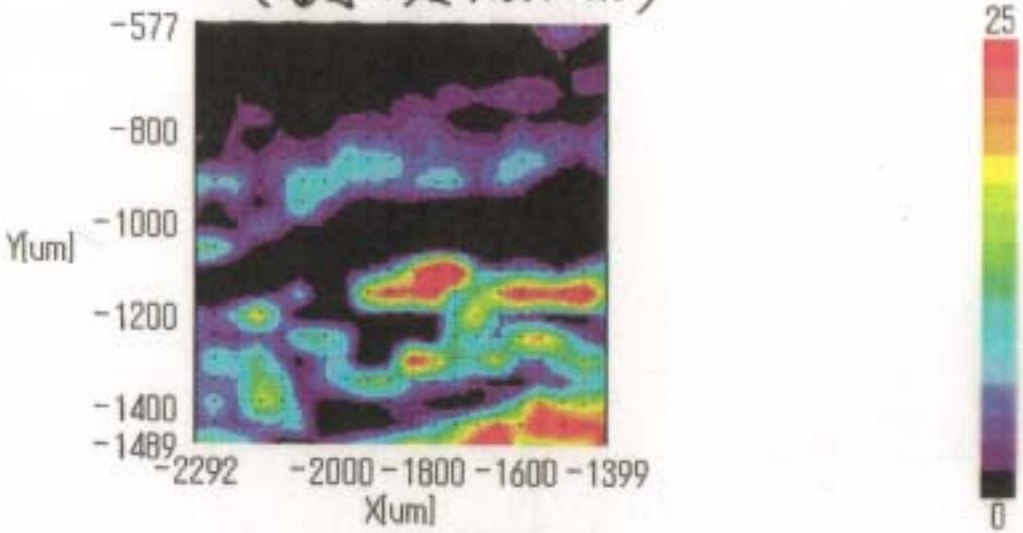
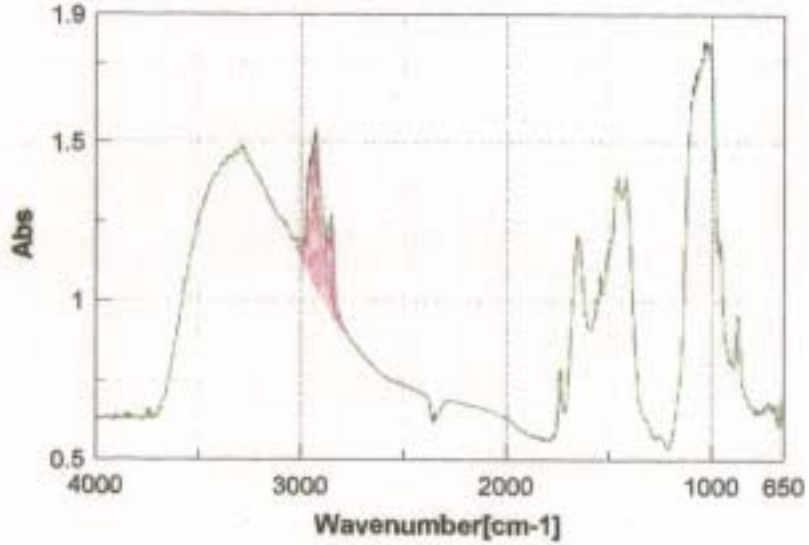


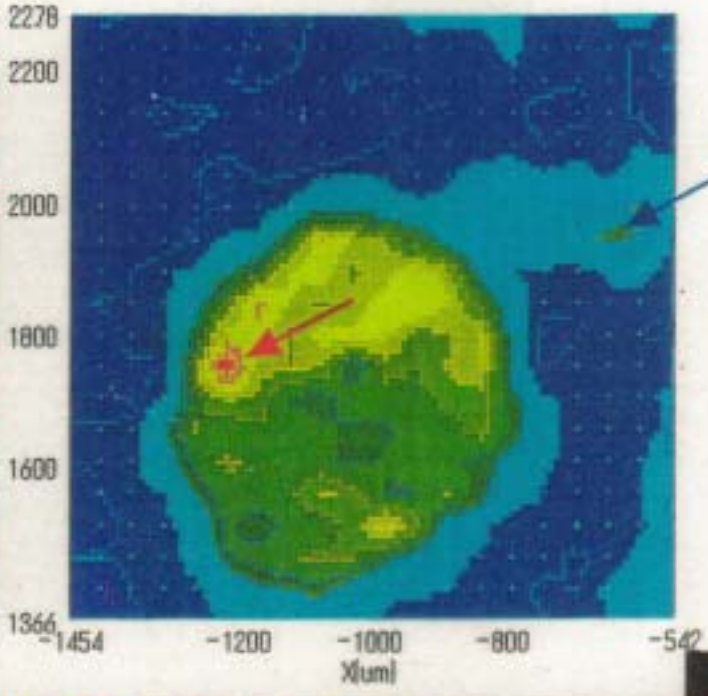
動脈硬化層
(剖検 No.1026)





(2P019)

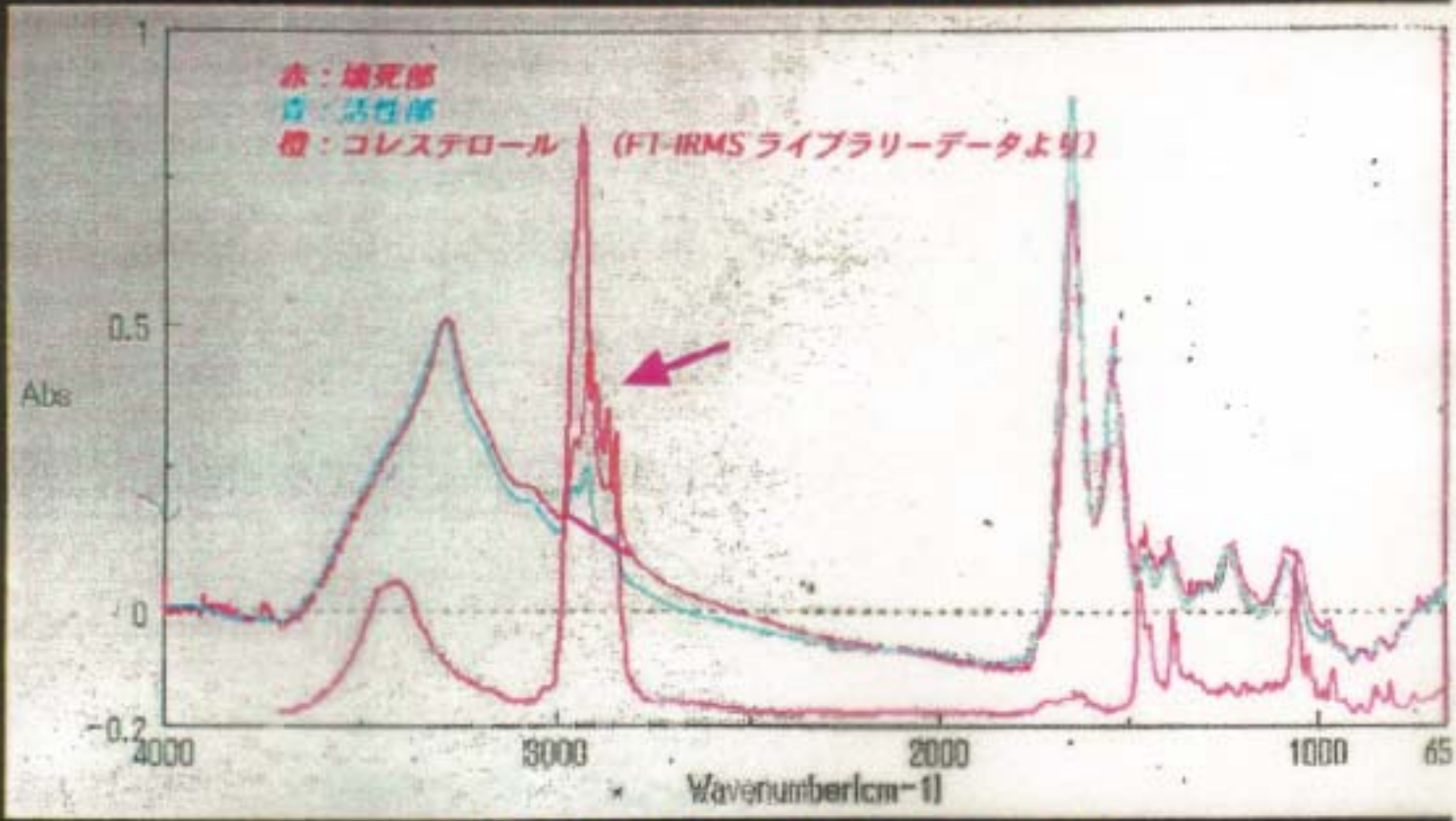
H-E



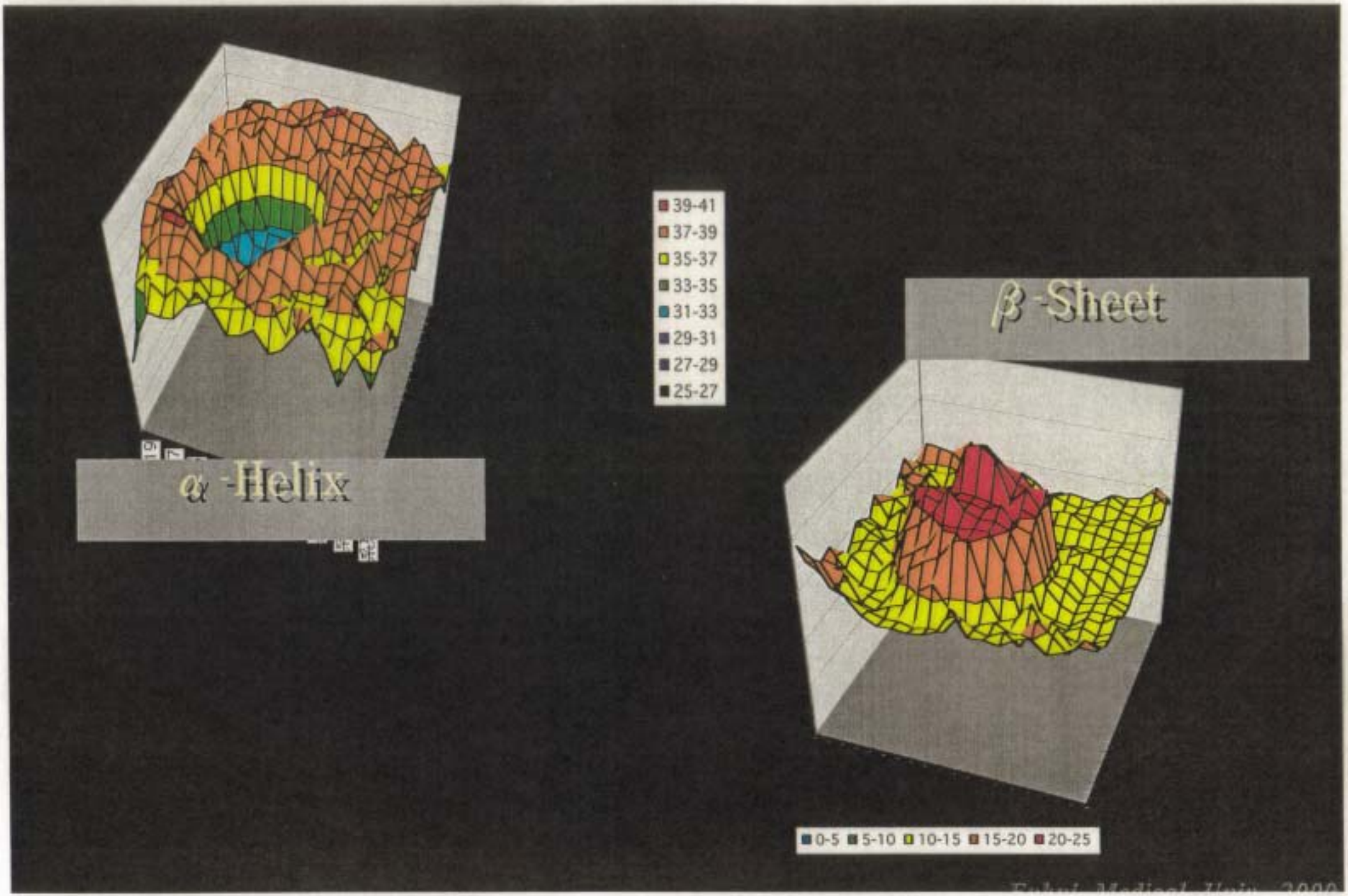
FT-IR

吸収強度の高い領域

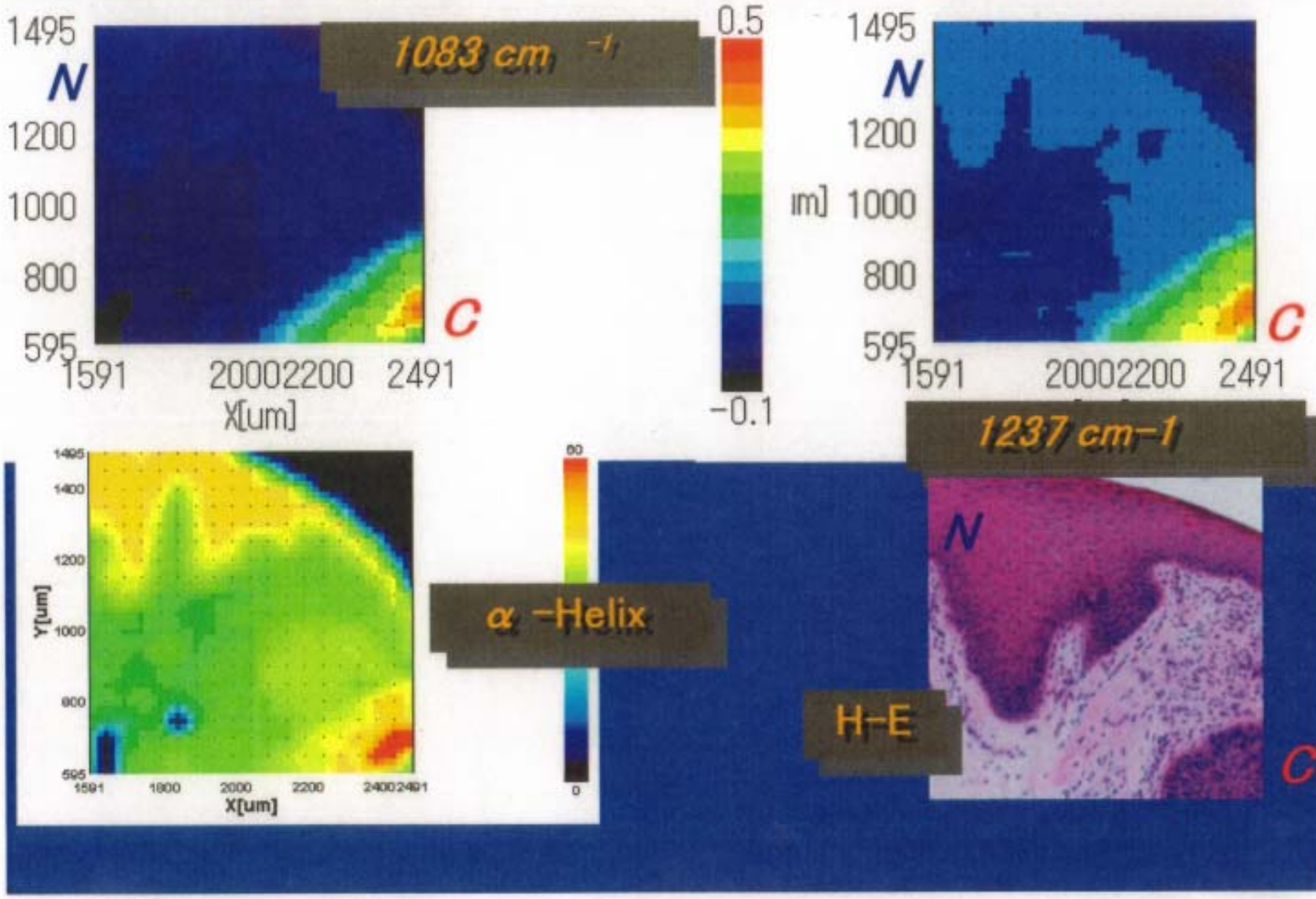
スペクトルピーク波形の一致



デコンボルーションによる波形分離結果
C-H 伸縮振動，コレステロール


39-41
37-39
35-37
33-35
31-33
29-31
27-29
25-27
α -Helix
β -Sheet
0-5
5-10
10-15
15-20
20-25

FT-IRM 画像と病理組織所見

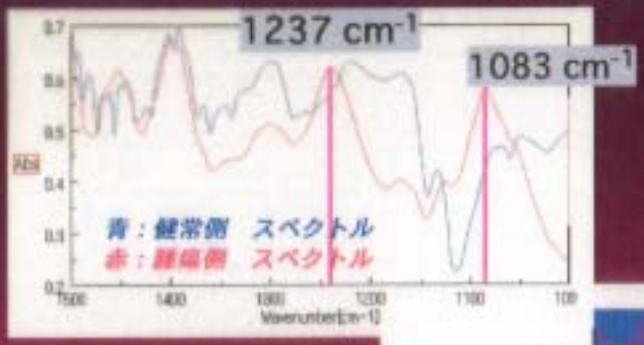


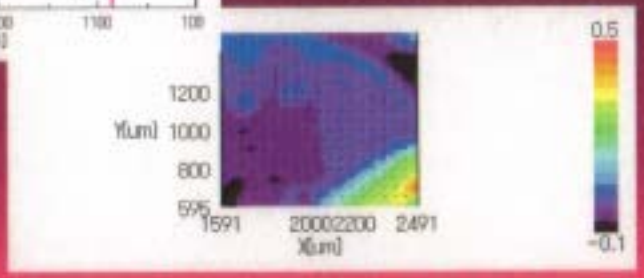
FT-IRによる癌の診断

健常側

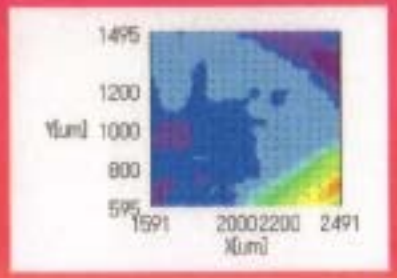
H&E染色

腫瘍側

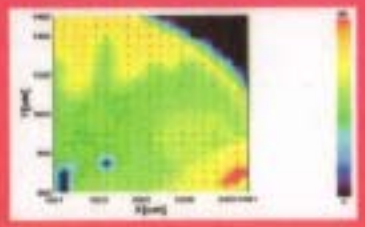




1083 cm^{-1} ピーク積分画像



1237 cm^{-1} ピーク積分画像



α-Helix構造

(1) An FT-IR bioimaging of biological material (Part I: Bone).
Norio Miyoshi, Toru Ogawa, Tetsushi Yamada, Kenichi Akao, Kazuhiko Abe, Fumiko Kaneuchi, Kazuo Sano, Masaru Fukuda.
ITE Letters on Batteries, New Technologies & Medicine.
Vol. 1 (1), 154-156, 2000.

(2) A preliminary study on the optical diagnosis of selerosing osteomyelitis of the mandible by a simple operation using FTIR microspectroscopy.
Toru Ogawa, Sachiko Yamamoto, Norio Miyoshi, Tetsushi Yamada, Yoshimasa Kitagawa, Toshiyuki Ogasawara, Hiroshi Uchihara, Kazuo Sano.
ITE Letters on Batteries, New Technologies & Medicine.
Vol. 1 (1), 151-153, 2000.

(3) New methods for preparing FT-IR microscopic samples of undecalcified hard tissues.
Toru Ogawa, Norio Miyoshi, Tetsushi Yamada, Mitsuhiko Sato, Yoshimasa Kitagawa, Toshiyuki Ogasawara, Kazuo Sano.
ITE Letters on Batteries, New Technologies & Medicine.
Vol. 1 (6), 962-965, 2000.

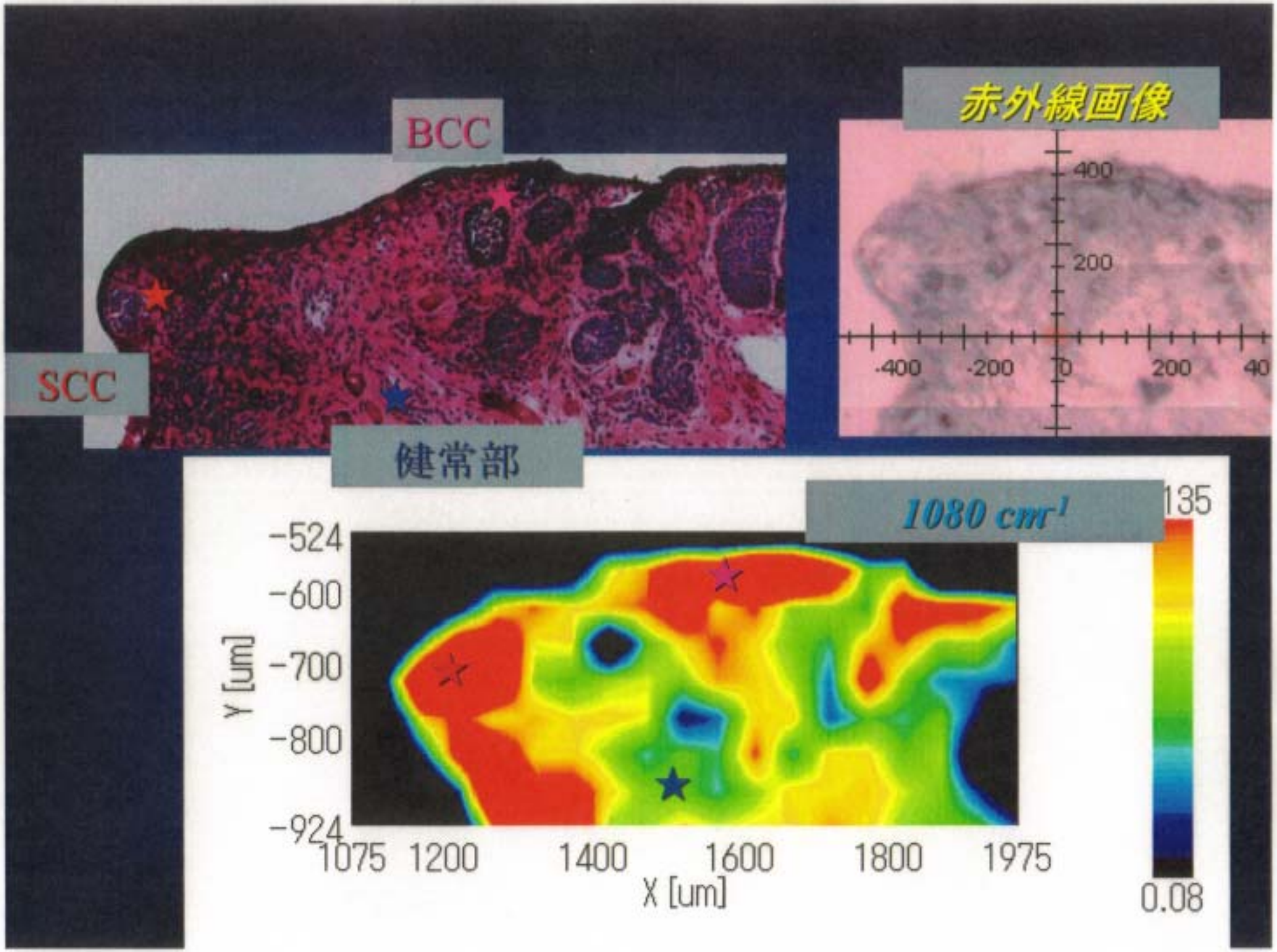
(4) FT-IR Spectra of Calcified Aorta Tissue.
Norio Miyoshi, Tetsushi Yamada, Toru Ogawa, Mitsuhiko Satou, Kenichi Akao.
ITE Letters on Batteries, New Technologies & Medicine.
Vol. 3 (1), 90-91, 2002.

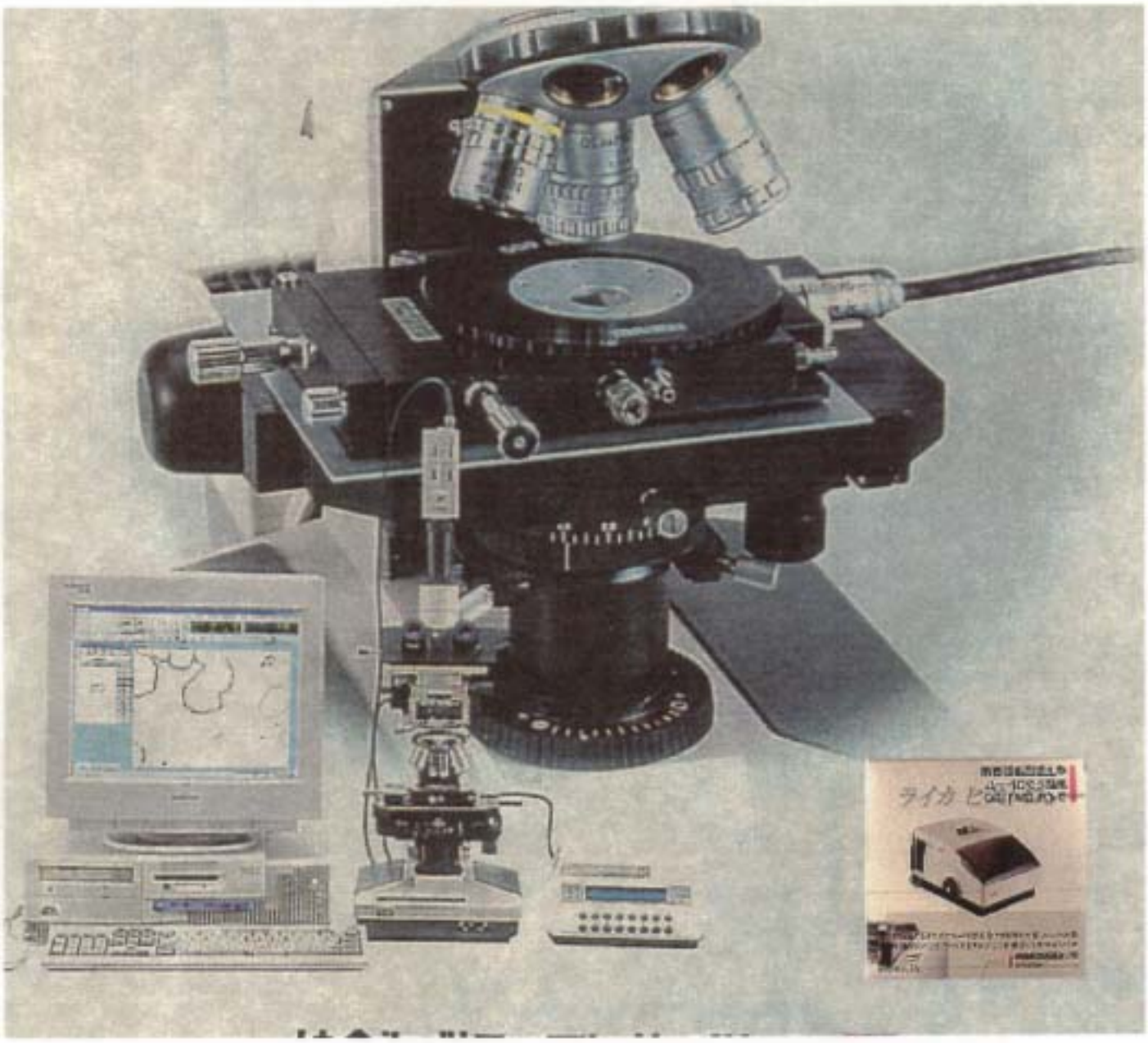
(5) Observation of molecular changes of a necrotic tissue from a murine carcinoma by Fourier-transform infrared microspectroscopy.
Tetsushi Yamada, Norio Miyoshi, Toru Ogawa, Kenichi Akao, Masaru Fukuda, Toshiyuki Ogasawara, Yoshimasa Kitagawa, Kazuo Sano.
Clinical Cancer Research, Vol. 8, 2010-2014, June 2002.

将来の顕微鏡ステージの高度化：

凍結薄切切片の作製とBaF_2プレート上移動及び低温透過計測するための-20℃設定可能な顕微鏡オートステージの実現

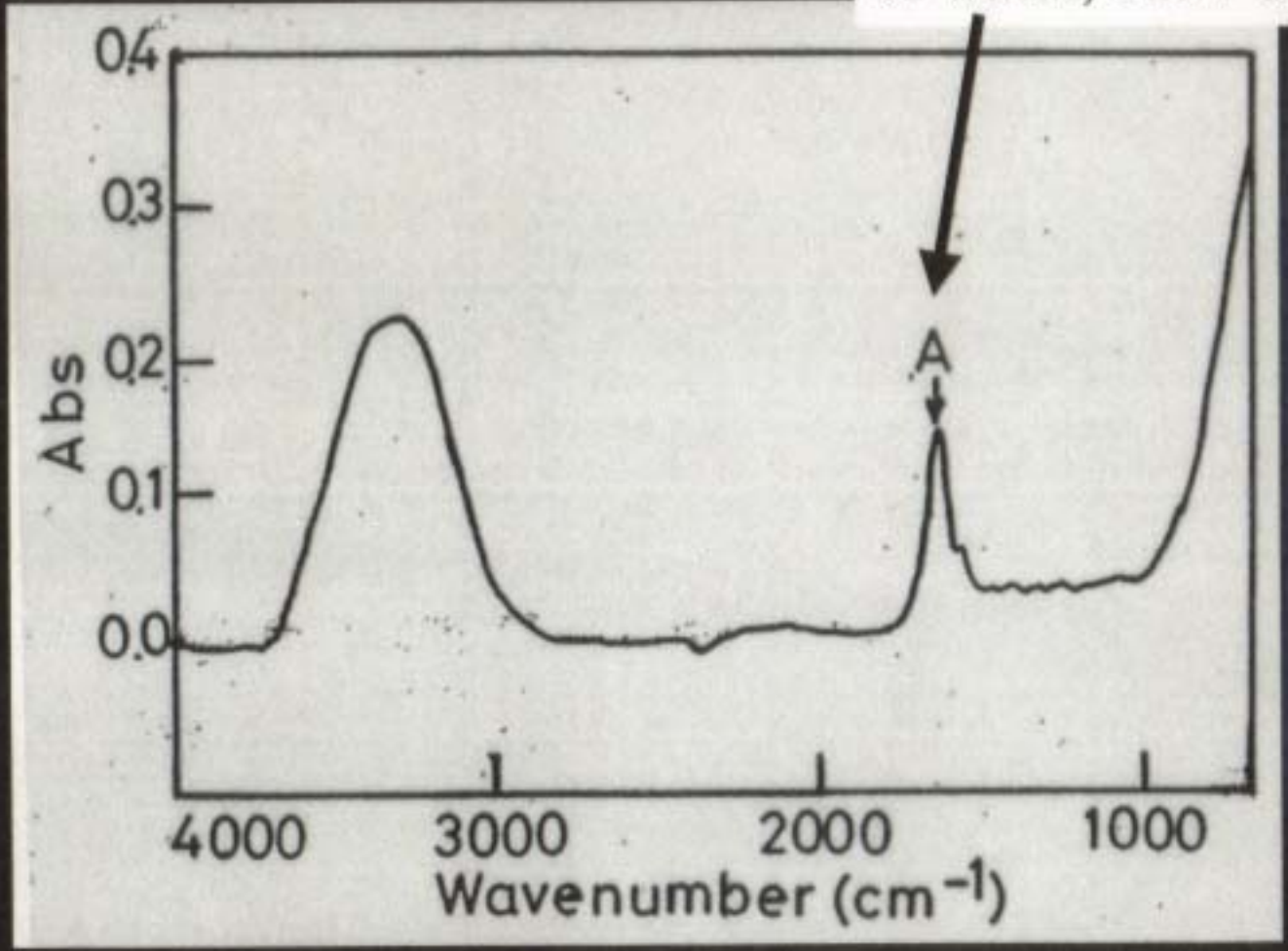
SPring-8, BL43IR, 2002


BCC
SCC
赤外線画像
400
200
-400
-200
0
200
40
健常部
1080 cm-1
135
0.08
-524
-600
-700
-800
-924
Y [um]
1075
1200
1400
1600
1800
1975
X [um]




Irtron

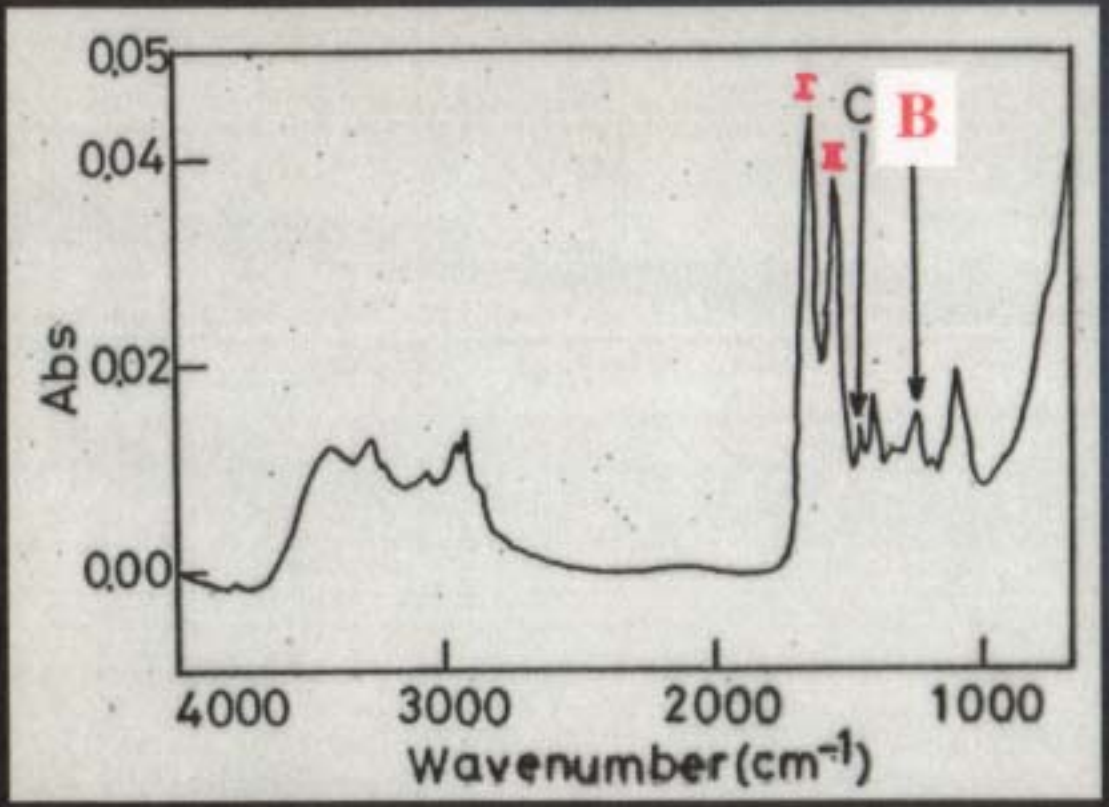
H-O-H stretching vibration mode of water, 1634 cm-1 (6.12 μm)



FT-IR ATR spectrum of Liver Tumor

Peak **B**

O-P-O anti-symmetric stretching vibration mode of the phosphodiester group in DNA back bone, 1224 cm-1 (8.17 μm)



FT-IR ATR spectrum of Liver Tumor Tissue by Water Subtraction