データ報告

# スペクトルデータベース提出データ

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（2000 年 5 月 16 日受理）

スペクトルデータベースに提出されたデータの内容およびレビュー結果を紹介する。

# Presented Data for SASJ Spectral Database

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*Matsushita Technoresearch, Inc.3-1-1, Yagumo-nakamachi, Moriguchi, Osaka 570
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(Received May 16 2000)

The authors introduce presented data for SASJ spectral database and review reports.

## １．今回の提出データ

本年２月２日～３日に開催された「スキルアップのための電子分光講座」において、試料を受講者に配布し、測定、ＩＳＯフォーマットファイル作成を行って提出するというフォローアップが企画された。

それに従い、今回３件のデータが提出されたので、内容概略およびレビュー結果紹介する。

## ２．ファイルリストおよびレビュー結果

＜受付番号 2000-001＞
提出機関：イオン工学研究所
提出者：青木正彦
試料：BaCO3
手法：XPS
内容：BaCO3 のＸＰＳ測定
レビュー結果：
（データファイル）
・Cu、Ag、Au における sample information で未記述の項目に unknown を記入した。
・手引き書にある operator の記述にはなっていないが、特に修正はしなかった。
・Cu における sample information の host material および IUPAC name が Cupper となっていたため Copper と修正した。
・BaCO3 の sample information の resolution calibration に uncalibrate を入力した。
・instrument identifier の Quantum2000 を PHI-Quantum2000 とした。
（投稿原稿）
・ヘッダーを付け、印刷書式をＪＳＡの投稿規定に従って変更した。

＜受付番号 2000-002＞
提出機関：キヤノン株式会社
提出者：高瀬博光、中村久美
試料：PbO
手法：XPS
内容：未処理の酸化鉛の表面組成測定を低エネルギー中和電子銃を使用して行った
レビュー結果：
（データファイル）
・Cu 及び PbO のワイドスキャンにおいて transitions の項目で valence band を追加した。
・手引き書では、institution は大文字で記入、operator は、family name が先となっているが、特に修正はしなかった。
（投稿原稿）
・ワイドスペクトルのみの原稿が添付されたが、SamPbO_JSA_修正.doc にすべてのスペクトルを記述したものを作成した。（本来は、投稿者に再度提出してもらうべきであると思うが、ＪＳＡ掲載の最初であり、今回に限り、委員会で作成した。）なお、ヘッダーを追加し、修正した。

＜受付番号 2000-003＞
提出機関：東燃株式会社
提出者：青柳良和
試料：BaCO3
手法：XPS
内容：BaCO3 の遷移について測定した。O 2s のピークは Ba 5s のピークにオーバーラップした。
レビュー結果：
（データファイル）
・すべてのスペクトルについて以下の項目を修正した。
　①anal. width x
　　anal. width y
　　800umphi→800 に修正
　②sample rotation angle
　　N/A→1E37 に修正
　③information package の processing
　　unprocessed を入力
・ワイドスペクトルについて、「-」が二重に記入されていたので修正した。
・添付の Cu スペクトルの composition に Cu を入力した。
（投稿原稿）
・ヘッダーを付け、印刷書式をＪＳＡの投稿規定に従って変更した。
・２つの WORD ファイルを１つにまとめた。

# SASJ database

H.Takase, K.Nakamura

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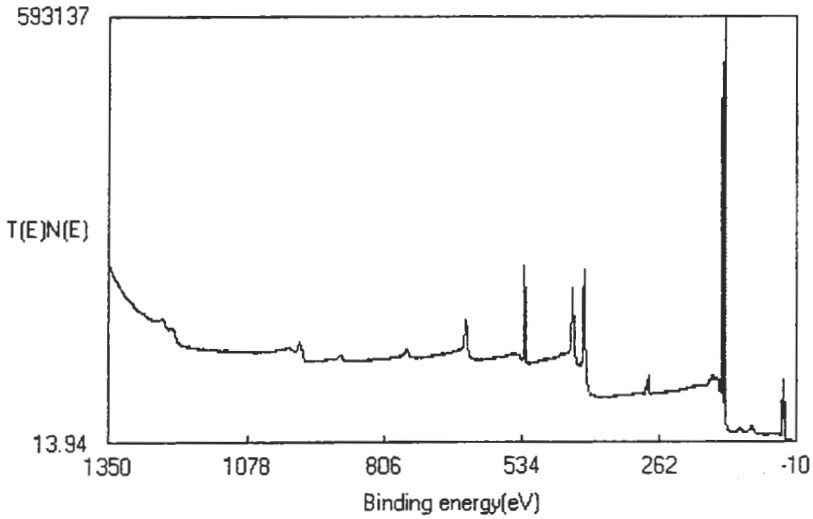
We investigated the lead oxide surface as received, using electron beam of low energy (4eV) for charge neutralization. C 1s peak was splitted in two, though charge neutralization seemed to be completed because Pb 4f7 peak was single.

## Spectra

Instrument = VG-ESCALAB 220iXL_MONO-1mmSpot_Large-XL: technique = XPS
source = Al K_alpha, mono: source energy = 1486.6: source strength = 160
source width_x = 1000: source width_y = 1000: pass energy/retard ratio = 50
species = Pb-O-C-
transitions = Pb 4s-Pb 4p-Pb 4d-Pb 4f-Pb 5p-Pb 5d-Pb NNV-O 1s-O KLL-C 1s-
host material = Lead oxide: host material composition = PbO
material family = inorganic: special material classes = powder



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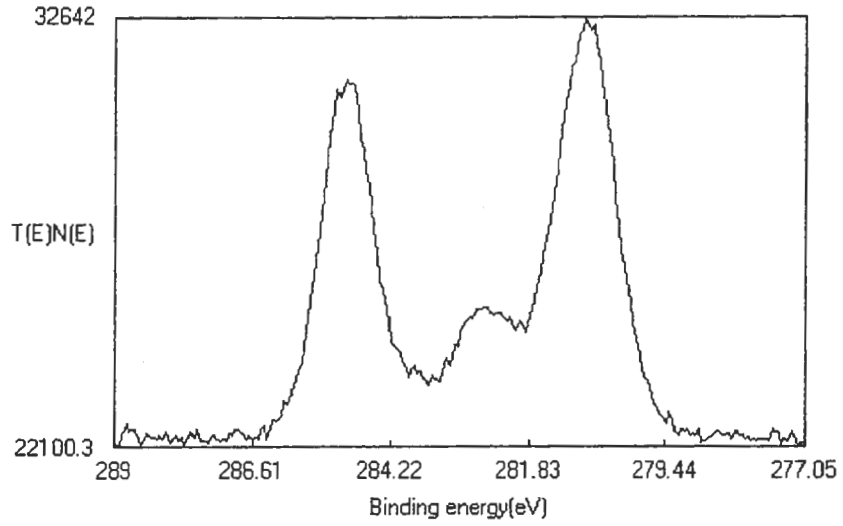
source = Al K_alpha, mono: source energy = 1486.6: source strength = 160
source width_x = 1000: source width_y = 1000: pass energy/retard ratio = 20
species = C-
transitions = C 1s-
host material = Lead oxide: host material composition = PbO
material family = inorganic: special material classes = powder

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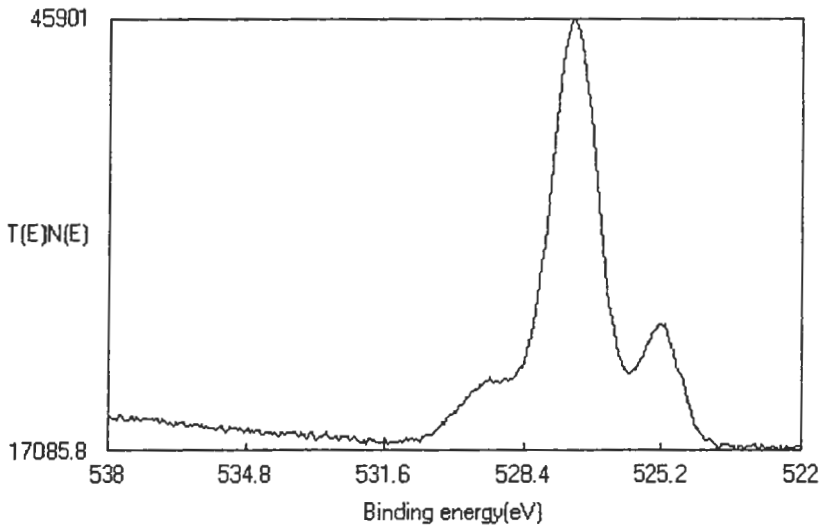
source = Al K_alpha, mono: source energy = 1486.6: source strength = 160
source width_x = 1000: source width_y = 1000: pass energy/retard ratio = 20
species = O-
transitions = O 1s-
host material = Lead oxide: host material composition = PbO
material family = inorganic: special material classes = powder



Instrument = VG-ESCALAB 220iXL_MONO-1mmSpot_Large-XL: technique = XPS
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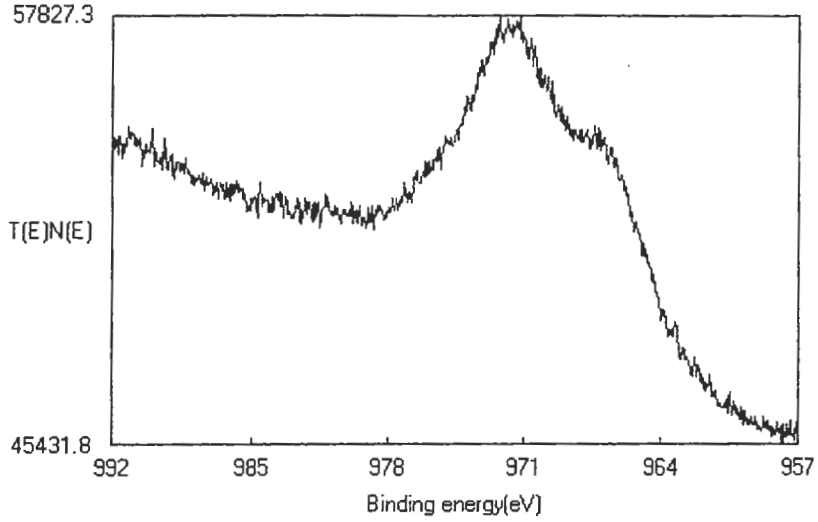
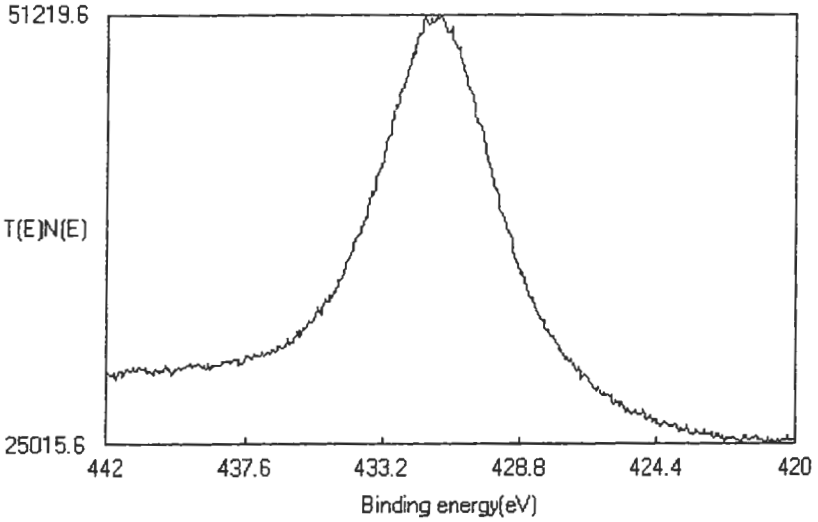
source width_x = 1000: source width_y = 1000: pass energy/retard ratio = 20
species = O-
transitions = O KLL-
host material = Lead oxide: host material composition = PbO
material family = inorganic: special material classes = powder




Instrument = VG-ESCALAB 220iXL_MONO-1mmSpot_Large-XL: technique = XPS
source = Al K_alpha, mono: source energy = 1486.6: source strength = 160
source width_x = 1000: source width_y = 1000: pass energy/retard ratio = 20
species = Pb-
transitions = Pb 4d3-
host material = Lead oxide: host material composition = PbO
material family = inorganic: special material classes = powder



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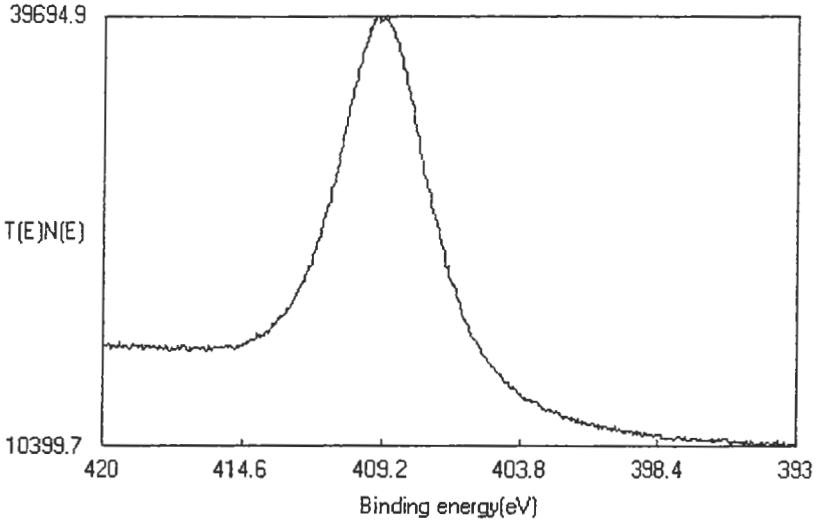
source = Al K_alpha, mono: source energy = 1486.6: source strength = 160
source width_x = 1000: source width_y = 1000: pass energy/retard ratio = 20
species = Pb-
transitions = Pb 4d5-
host material = Lead oxide: host material composition = PbO
material family = inorganic: special material classes = powder

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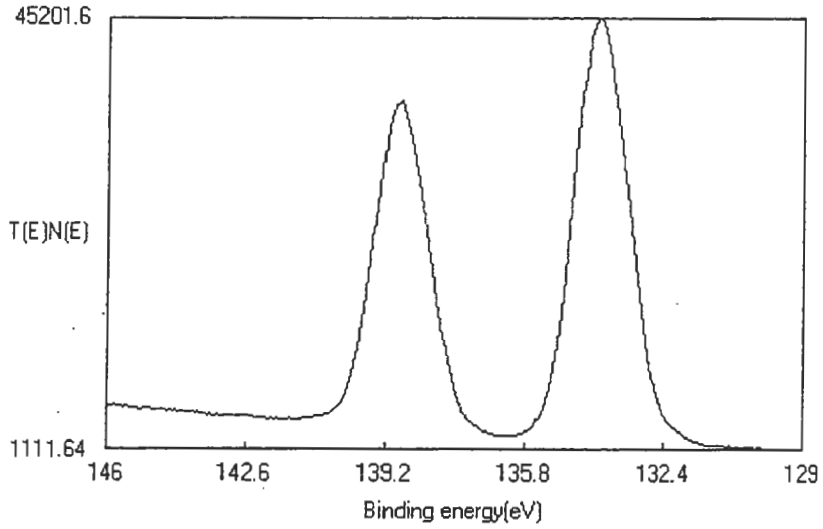
source = Al K_alpha, mono: source energy = 1486.6: source strength = 160
source width_x = 1000: source width_y = 1000: pass energy/retard ratio = 20
species = Pb-
transitions = Pb 4f-
host material = Lead oxide: host material composition = PbO
material family = inorganic: special material classes = powder



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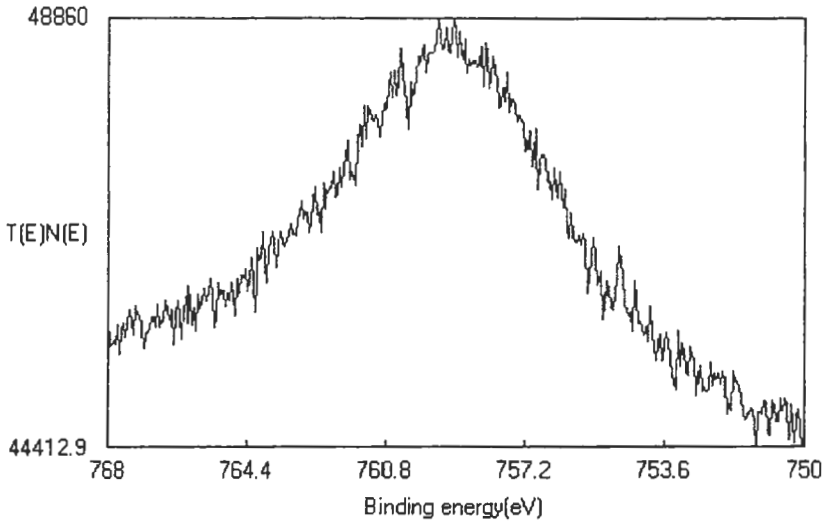
source = Al K_alpha, mono: source energy = 1486.6: source strength = 160
source width_x = 1000: source width_y = 1000: pass energy/retard ratio = 20
species = Pb-
transitions = Pb 4p1-
host material = Lead oxide: host material composition = PbO
material family = inorganic: special material classes = powder

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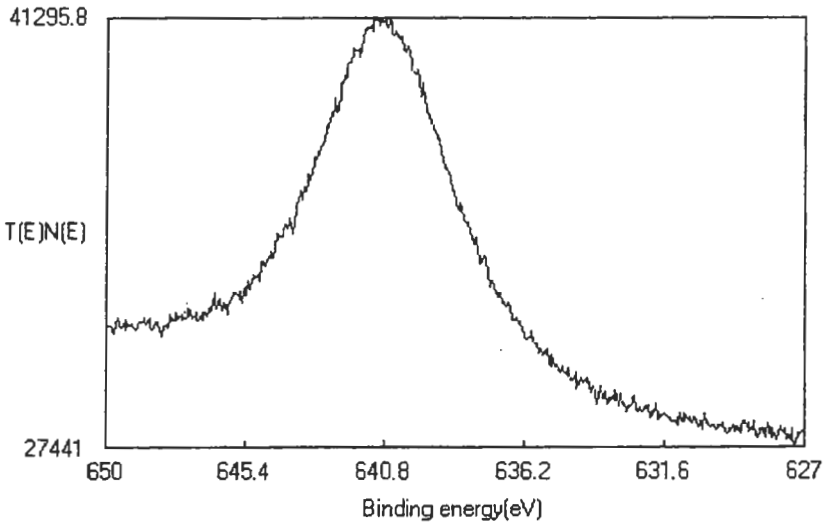
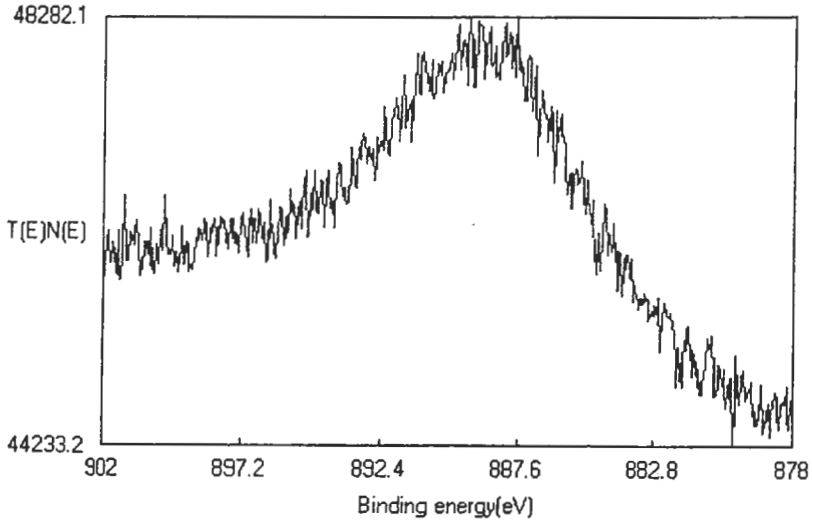
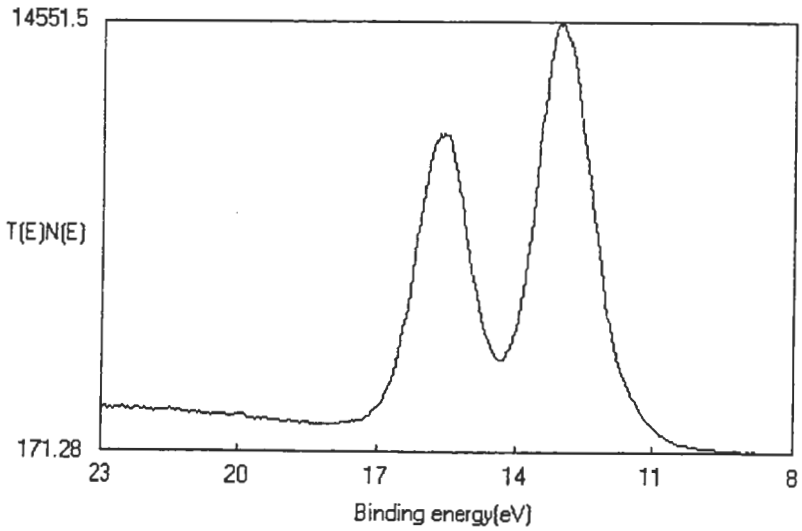
source = Al K_alpha, mono: source energy = 1486.6: source strength = 160
source width_x = 1000: source width_y = 1000: pass energy/retard ratio = 20
species = Pb-
transitions = Pb 4p3-
host material = Lead oxide: host material composition = PbO
material family = inorganic: special material classes = powder



Instrument = VG-ESCALAB 220iXL_MONO-1mmSpot_Large-XL: technique = XPS
source = Al K_alpha, mono: source energy = 1486.6: source strength = 160
source width_x = 1000: source width_y = 1000: pass energy/retard ratio = 20
species = Pb-
transitions = Pb 4s-
host material = Lead oxide: host material composition = PbO
material family = inorganic: special material classes = powder




Instrument = VG-ESCALAB 220iXL_MONO-1mmSpot_Large-XL: technique = XPS
source = Al K_alpha, mono: source energy = 1486.6: source strength = 160
source width_x = 1000: source width_y = 1000: pass energy/retard ratio = 20
species = Pb-
transitions = Pb 5d-
host material = Lead oxide: host material composition = PbO
material family = inorganic: special material classes = powder



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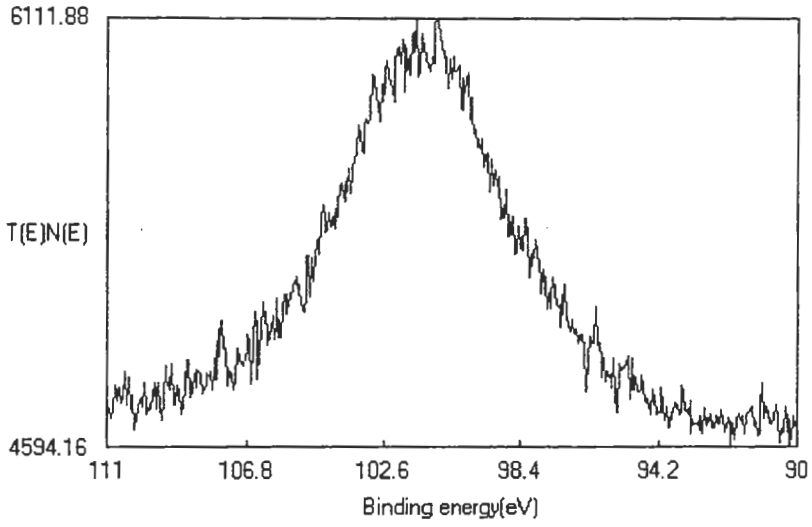
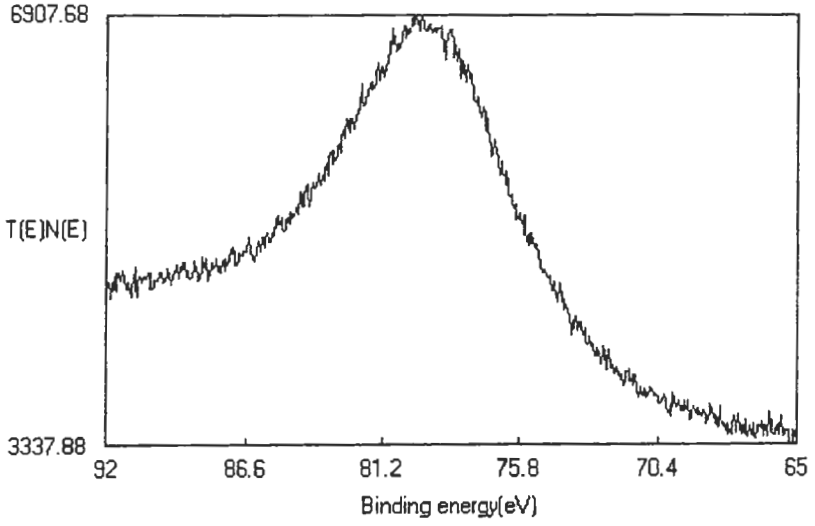
source = Al K_alpha, mono: source energy = 1486.6: source strength = 120
source width_x = 1000: source width_y = 1000: pass energy/retard ratio = 20
species = Pb-
transitions = Pb 5p1-
host material = Lead oxide: host material composition = PbO
material family = inorganic: special material classes = powder




Instrument = VG-ESCALAB 220iXL_MONO-1mmSpot_Large-XL: technique = XPS
source = Al K_alpha, mono: source energy = 1486.6: source strength = 160
source width_x = 1000: source width_y = 1000: pass energy/retard ratio = 20
species = Pb-
transitions = Pb 5p3-
host material = Lead oxide: host material composition = PbO
material family = inorganic: special material classes = powder



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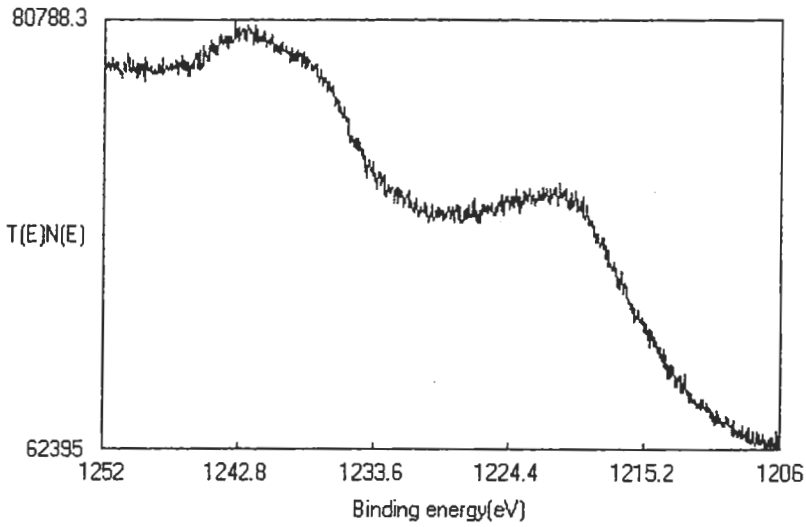
source = Al K_alpha, mono: source energy = 1486.6: source strength = 160
source width_x = 1000: source width_y = 1000: pass energy/retard ratio = 20
species = Pb-
transitions = Pb NNN-
host material = Lead oxide: host material composition = PbO
material family = inorganic: special material classes = powder



# BaCO3 measurement

Aoyagi, Y.

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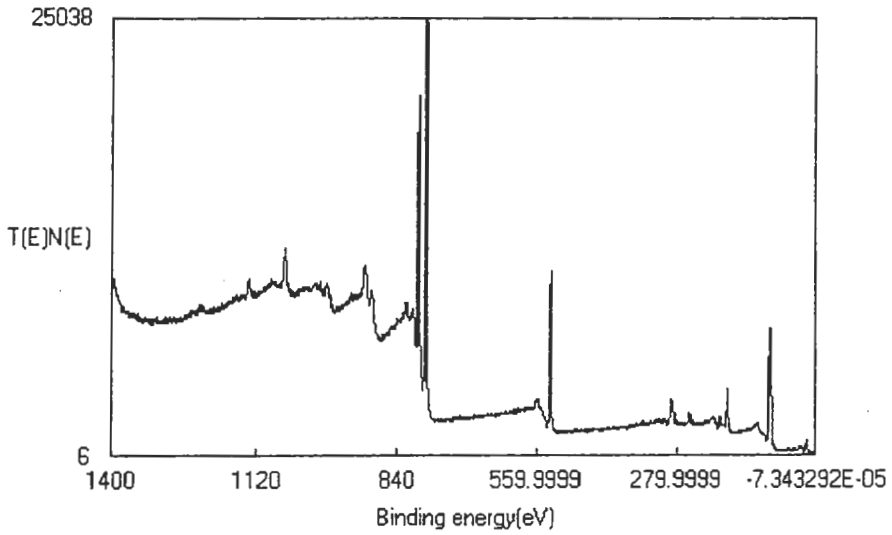
yoshikazu.aoyagi@tonen.co.jp

We investigated the transitions of BaCO3 powder. O 2s overlaps Ba 5s.

## Spectra

Instrument = PHI-5600_mono: technique = XPS
source = Al K_alpha: source energy = 1486.6: source strength = 250
source width_x = 1E37: source width_y = 1E37: pass energy/retard ratio = 187.85
species = C-O-Ba-
transitions = C 1s-C KVV-O 1s-O KLL-Ba 5p-Ba 5s-Ba 4p-Ba 4s-Ba 3d-Ba MNN-Ba 3p-
host material = Barium carbonate: host material composition = Ba 0.2 C 0.2 O 0.6
material family = inorganic: special material classes = powder



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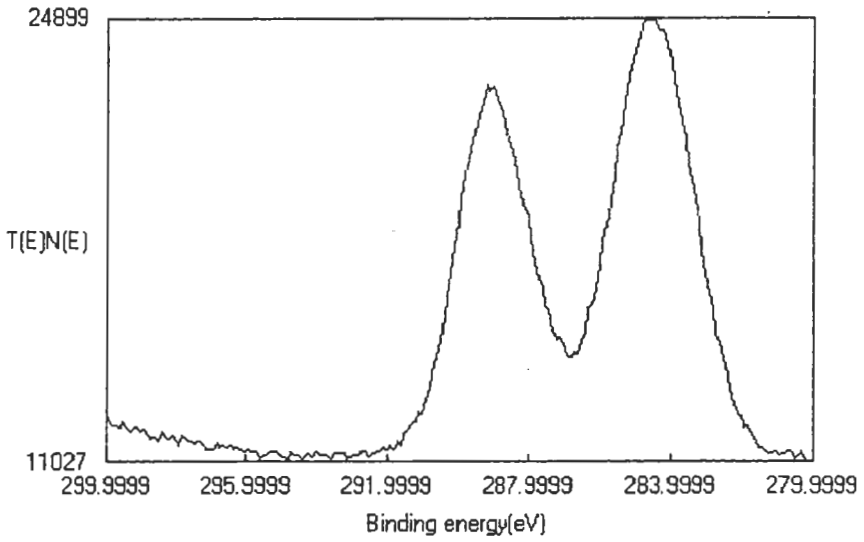
source = Al K_alpha: source energy = 1486.6: source strength = 250
source width_x = 1E37: source width_y = 1E37: pass energy/retard ratio = 23.5
species = C-
transitions = C 1s-
host material = Barium carbonate: host material composition = Ba 0.2 C 0.2 O 0.6
material family = inorganic: special material classes = powder

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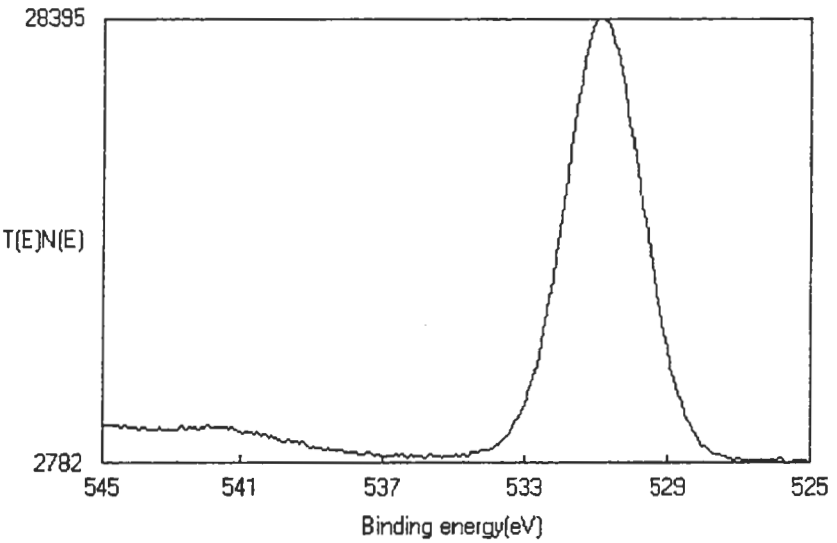
source = Al K_alpha: source energy = 1486.6: source strength = 250
source width_x = 1E37: source width_y = 1E37: pass energy/retard ratio = 23.5
species = O-
transitions = O 1s-
host material = Barium carbonate: host material composition = Ba 0.2 C 0.2 O 0.6
material family = inorganic: special material classes = powder



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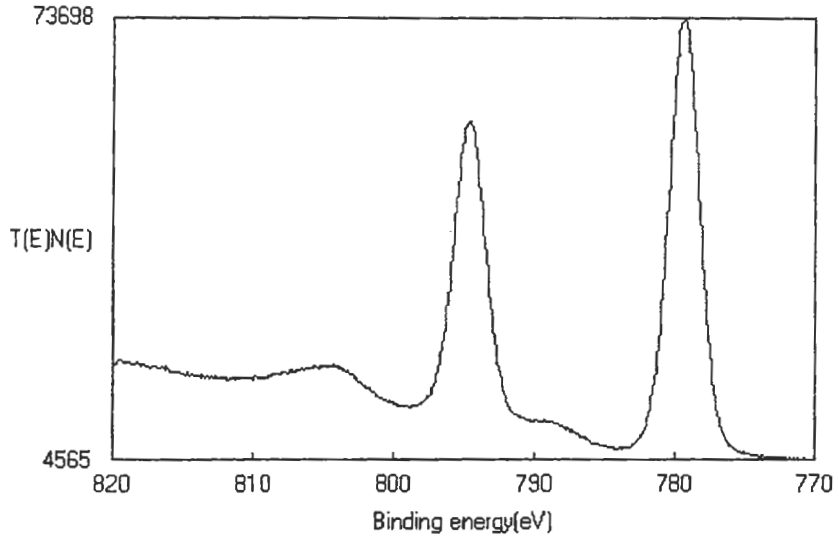
source = Al K_alpha: source energy = 1486.6: source strength = 250
source width_x = 1E37: source width_y = 1E37: pass energy/retard ratio = 23.5
species = Ba-
transitions = Ba 3d-
host material = Barium carbonate: host material composition = Ba 0.2 C 0.2 O 0.6
material family = inorganic: special material classes = powder

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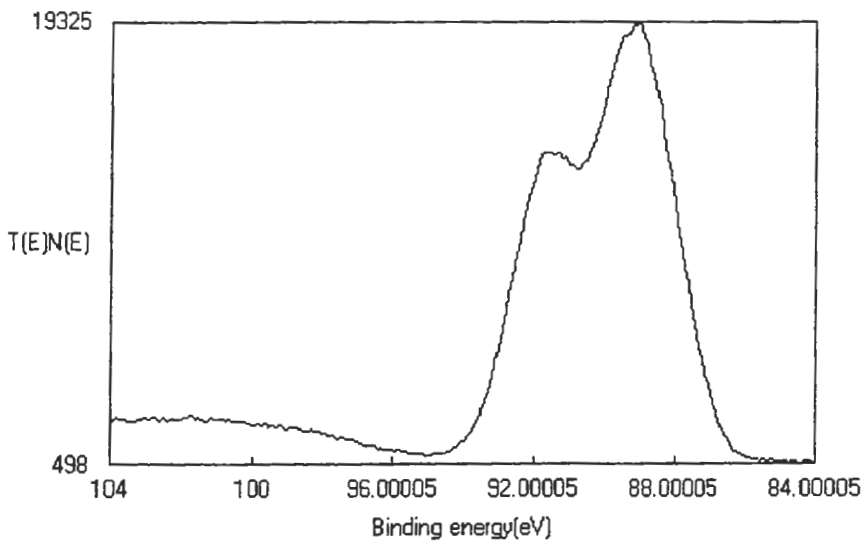
source = Al K_alpha: source energy = 1486.6: source strength = 250
source width_x = 1E37: source width_y = 1E37: pass energy/retard ratio = 23.5
species = Ba-
transitions = Ba 4d-
host material = Barium carbonate: host material composition = Ba 0.2 C 0.2 O 0.6
material family = inorganic: special material classes = powder



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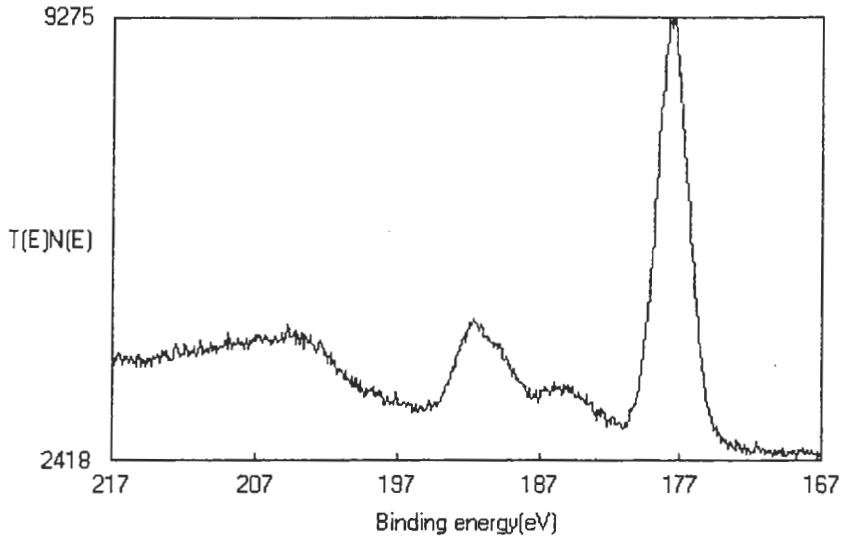
source = Al K_alpha: source energy = 1486.6: source strength = 250
source width_x = 1E37: source width_y = 1E37: pass energy/retard ratio = 23.5
species = Ba-
transitions = Ba 4p-
host material = Barium carbonate: host material composition = Ba 0.2 C 0.2 O 0.6
material family = inorganic: special material classes = powder

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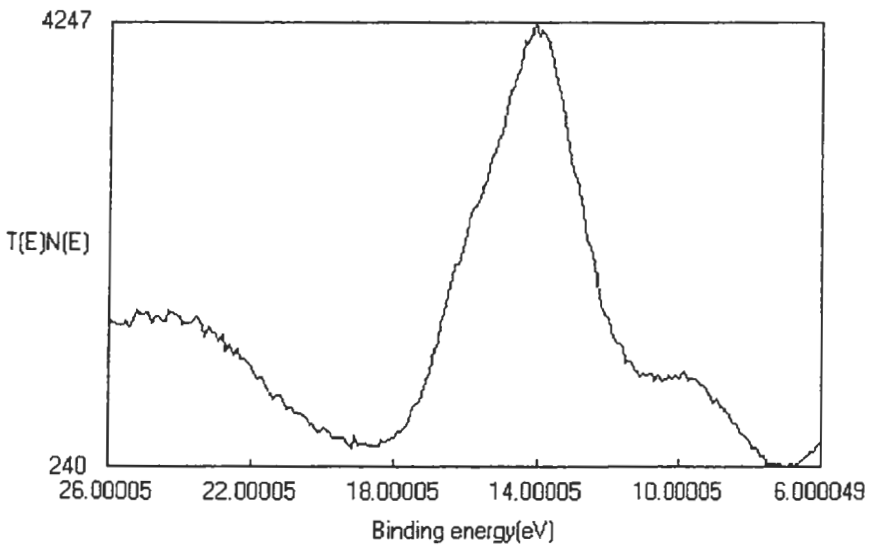
source = Al K_alpha: source energy = 1486.6: source strength = 250
source width_x = 1E37: source width_y = 1E37: pass energy/retard ratio = 23.5
species = Ba-
transitions = Ba 5p-
host material = Barium carbonate: host material composition = Ba 0.2 C 0.2 O 0.6
material family = inorganic: special material classes = powder



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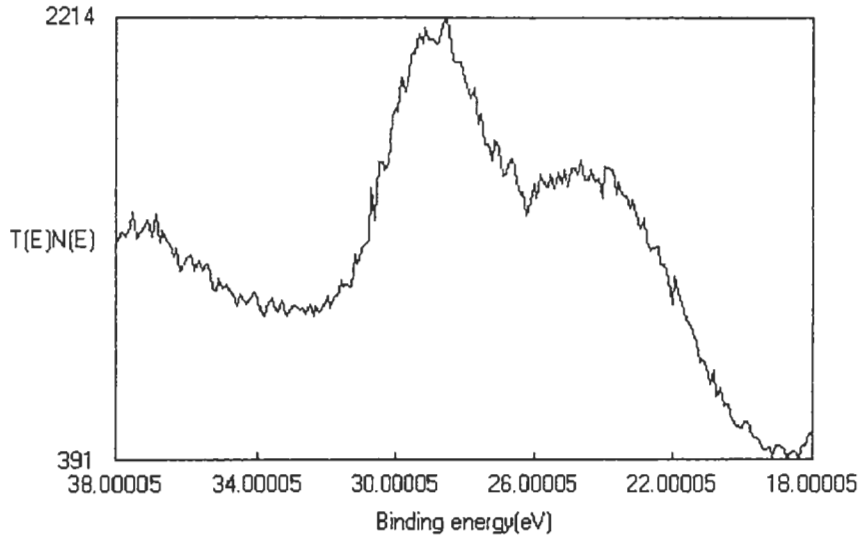
source width_x = 1E37: source width_y = 1E37: pass energy/retard ratio = 23.5
species = Ba-
transitions = Ba 5s-
host material = Barium carbonate: host material composition = Ba 0.2 C 0.2 O 0.6
material family = inorganic: special material classes = powder




Instrument = PHI-5600_mono: technique = XPS
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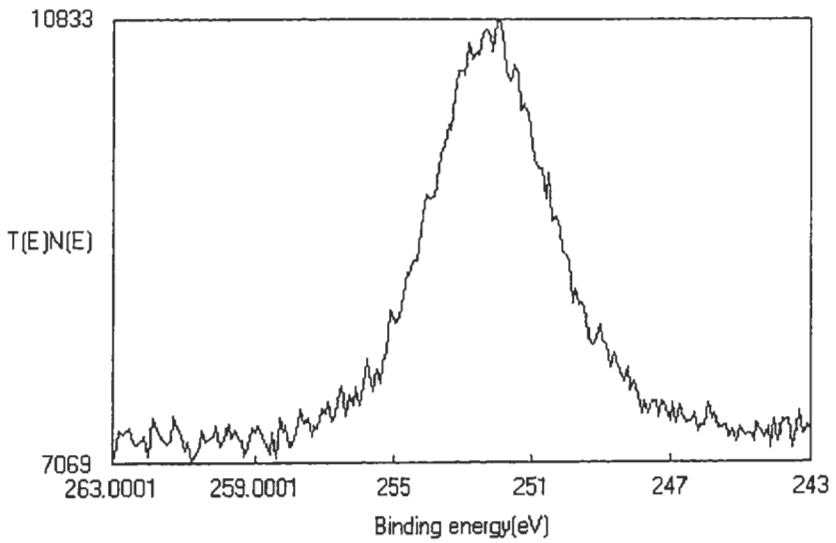
source width_x = 1E37: source width_y = 1E37: pass energy/retard ratio = 23.5
species = Ba-
transitions = Ba 4s-
host material = Barium carbonate: host material composition = Ba 0.2 C 0.2 O 0.6
material family = inorganic: special material classes = powder



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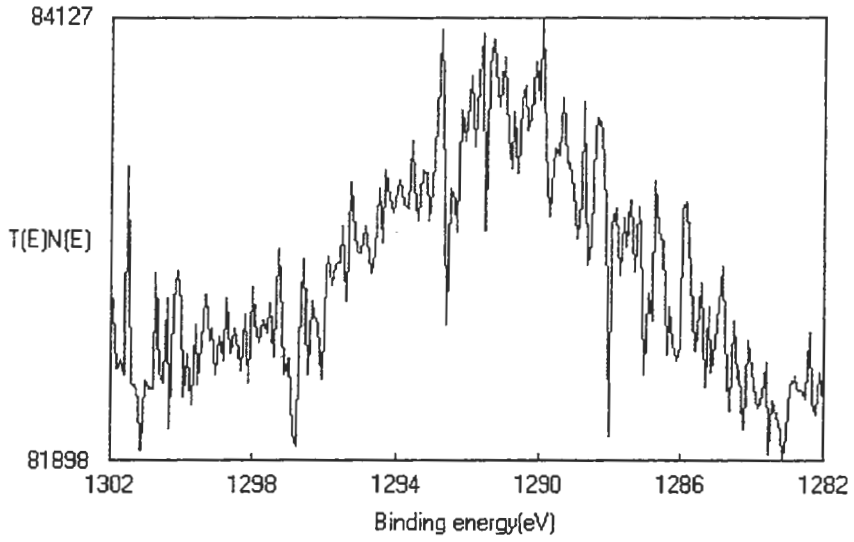
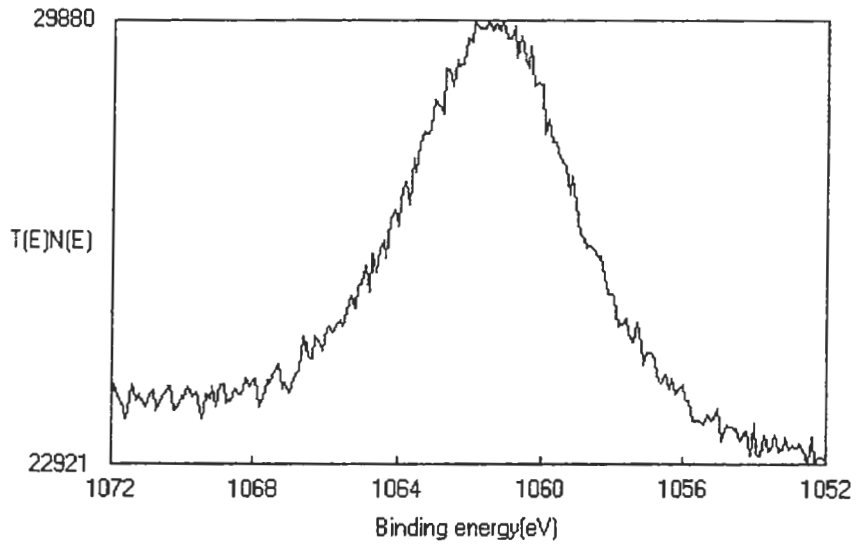
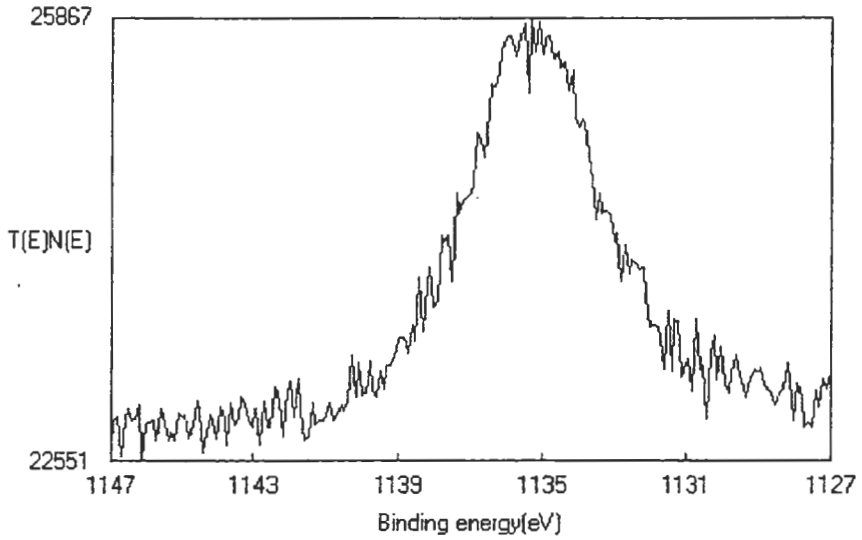
source width_x = 1E37: source width_y = 1E37: pass energy/retard ratio = 23.5
species = Ba-
transitions = Ba 3s-
host material = Barium carbonate: host material composition = Ba 0.2 C 0.2 O 0.6
material family = inorganic: special material classes = powder



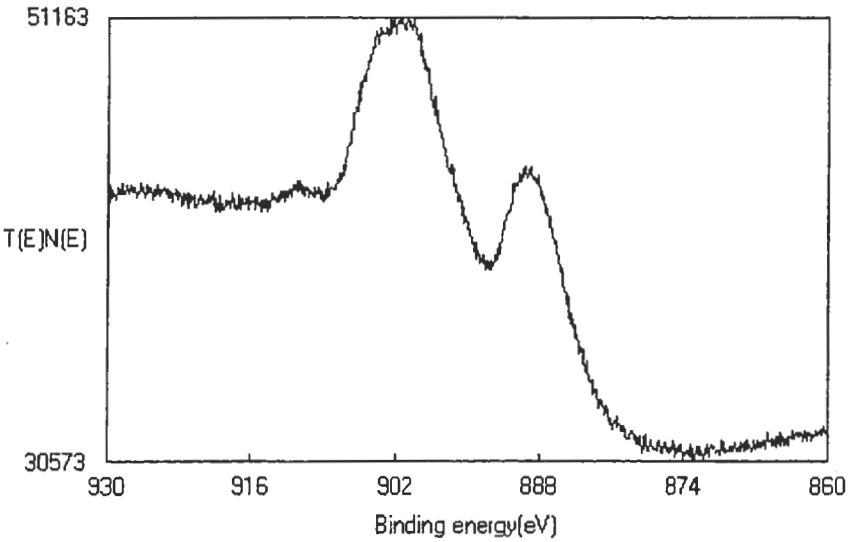

Instrument = PHI-5600_mono: technique = XPS
source = Al K_alpha: source energy = 1486.6: source strength = 250
source width_x = 1E37: source width_y = 1E37: pass energy/retard ratio = 23.5
species = Ba-
transitions = Ba 3p-
host material = Barium carbonate: host material composition = Ba 0.2 C 0.2 O 0.6
material family = inorganic: special material classes = powder



Instrument = PHI-5600_mono: technique = XPS
source = Al K_alpha: source energy = 1486.6: source strength = 250
source width_x = 1E37: source width_y = 1E37: pass energy/retard ratio = 23.5
species = Ba-
transitions = Ba 3p-
host material = Barium carbonate: host material composition = Ba 0.2 C 0.2 O 0.6
material family = inorganic: special material classes = powder




Instrument = PHI-5600_mono: technique = XPS
source = Al K_alpha: source energy = 1486.6: source strength = 250
source width_x = 1E37: source width_y = 1E37: pass energy/retard ratio = 23.5
species = Ba-
transitions = Ba MNN-
host material = Barium carbonate: host material composition = Ba 0.2 C 0.2 O 0.6
material family = inorganic: special material classes = powder



# XPS Measurement of $BaCO_3$

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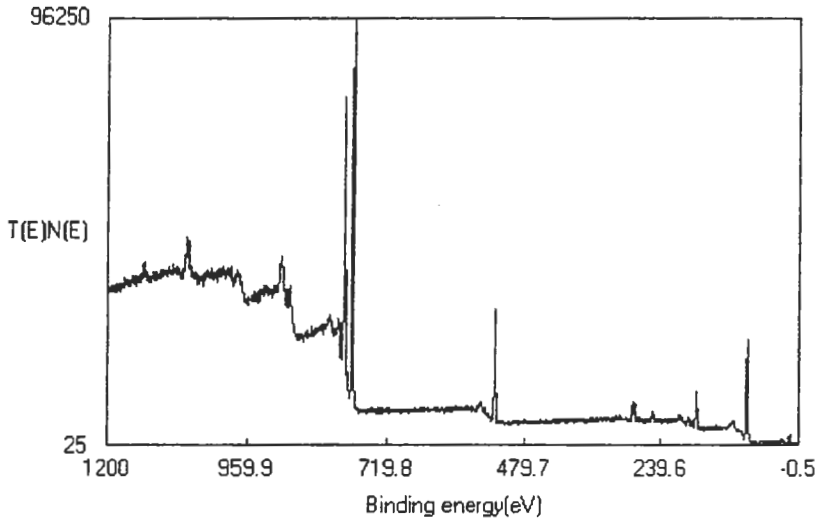
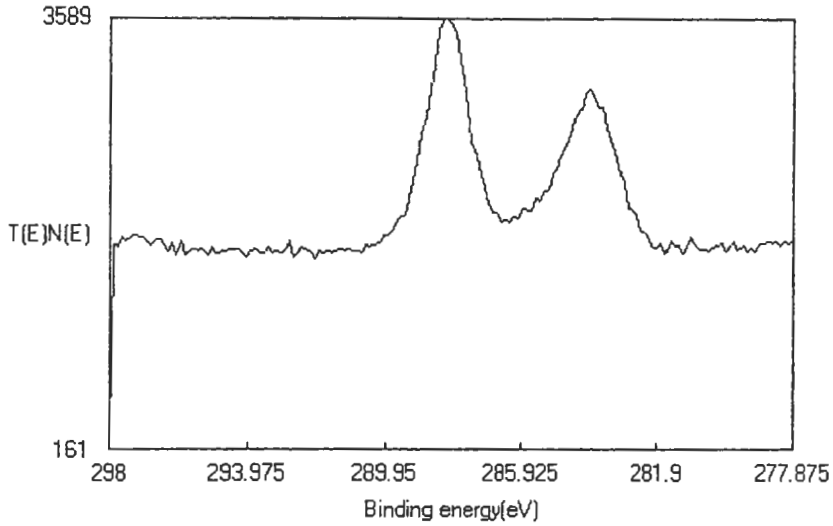
We investigated the $BaCO_3$ surface by XPS. There are the wide scan spectrum and narrow scan spectrums. The calibration data were obtained by the measurement of Au, Ag, and Cu.

## Spectra

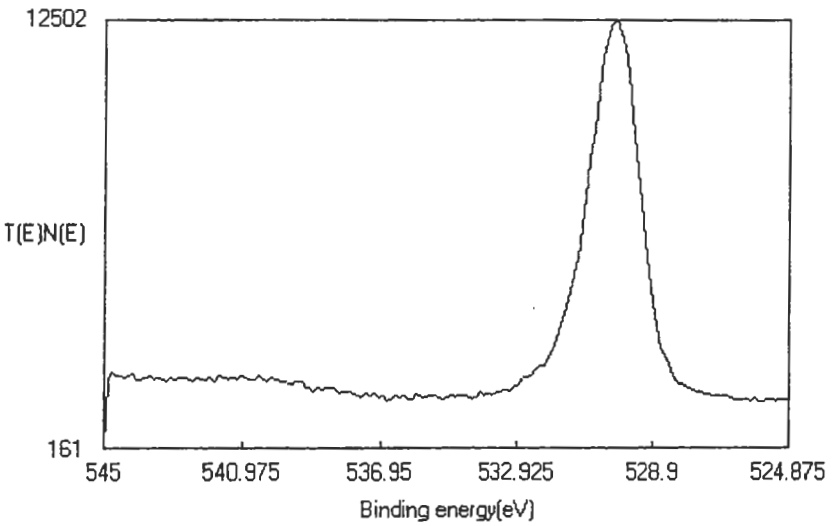
Instrument = Quantum2000: technique = XPS
source = Al K_alpha: source energy = 1486.6: source strength = 20
source width_x = 500: source width_y = 500: pass energy/retard ratio = 117.4
species = Ba-C-O-
transitions = Ba 5p-Ba 5s-Ba 4d-Ba 4p-Ba 4s-Ba MNN-Ba 3d-Ba 3p-C 1s-C KVV-valence band-O 2s-O 1s-O KLL-
host material = Barium carbonate: host material composition = Ba 0.2 C 0.2 O 0.6
material family = inorganic: special material classes = powder



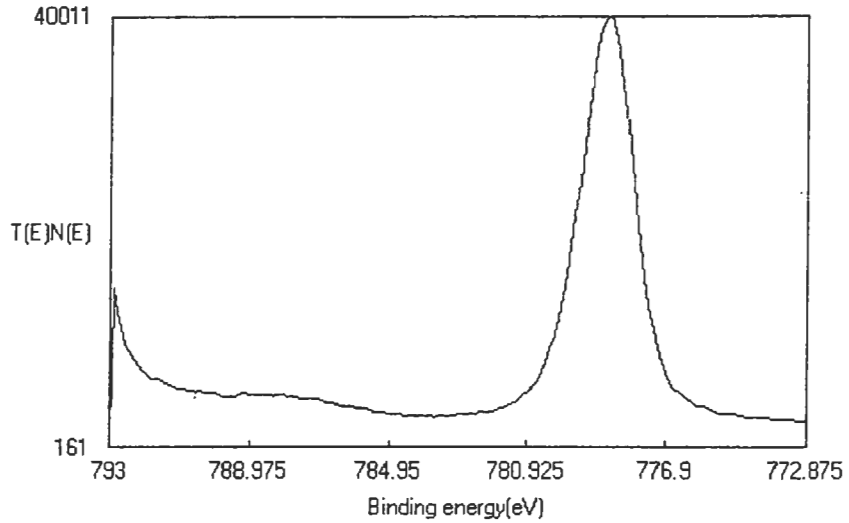
Instrument = Quantum2000: technique = XPS
source = Al K_alpha: source energy = 1486.6: source strength = 20
source width_x = 500: source width_y = 500: pass energy/retard ratio = 117.4
species = C-
transitions = C 1s-
host material = Barium carbonate: host material composition = Ba 0.2 C 0.2 O 0.6
material family = inorganic: special material classes = powder




Instrument = Quantum2000: technique = XPS
source = Al K_alpha: source energy = 1486.6: source strength = 20
source width_x = 500: source width_y = 500: pass energy/retard ratio = 117.4
species = O-
transitions = O 1s-
host material = Barium carbonate: host material composition = Ba 0.2 C 0.2 O 0.6
material family = inorganic: special material classes = powder



Instrument = Quantum2000: technique = XPS
source = Al K_alpha: source energy = 1486.6: source strength = 20
source width_x = 500: source width_y = 500: pass energy/retard ratio = 117.4
species = Ba-
transitions = Ba 3d-
host material = Barium carbonate: host material composition = Ba 0.2 C 0.2 O 0.6
material family = inorganic: special material classes = powder




Instrument = Quantum2000: technique = XPS
source = Al K_alpha: source energy = 1486.6: source strength = 20
source width_x = 500: source width_y = 500: pass energy/retard ratio = 117.4
species = Cu-
transitions = Cu 3p-Cu 3s-Cu LMM-Cu 2p-Cu 2s-valence band-
host material = cupper: host material composition = Cu
material family = metal: special material classes = sheet