

**Zirconium (IV) Oxide (FW = 123.22)**  
**Surface Composition Table**

**Description:** ZrO<sub>2</sub> (99.9%, < 100 ppm HfO<sub>2</sub>) from Aldrich Co. Lot# 02310BV, analyzed at 90 deg TOA, mesh at 1 mm, non-conductive white powder pressed into 3 mm pellet, mp 2700 C, d 5.89, slightly sol in HCl

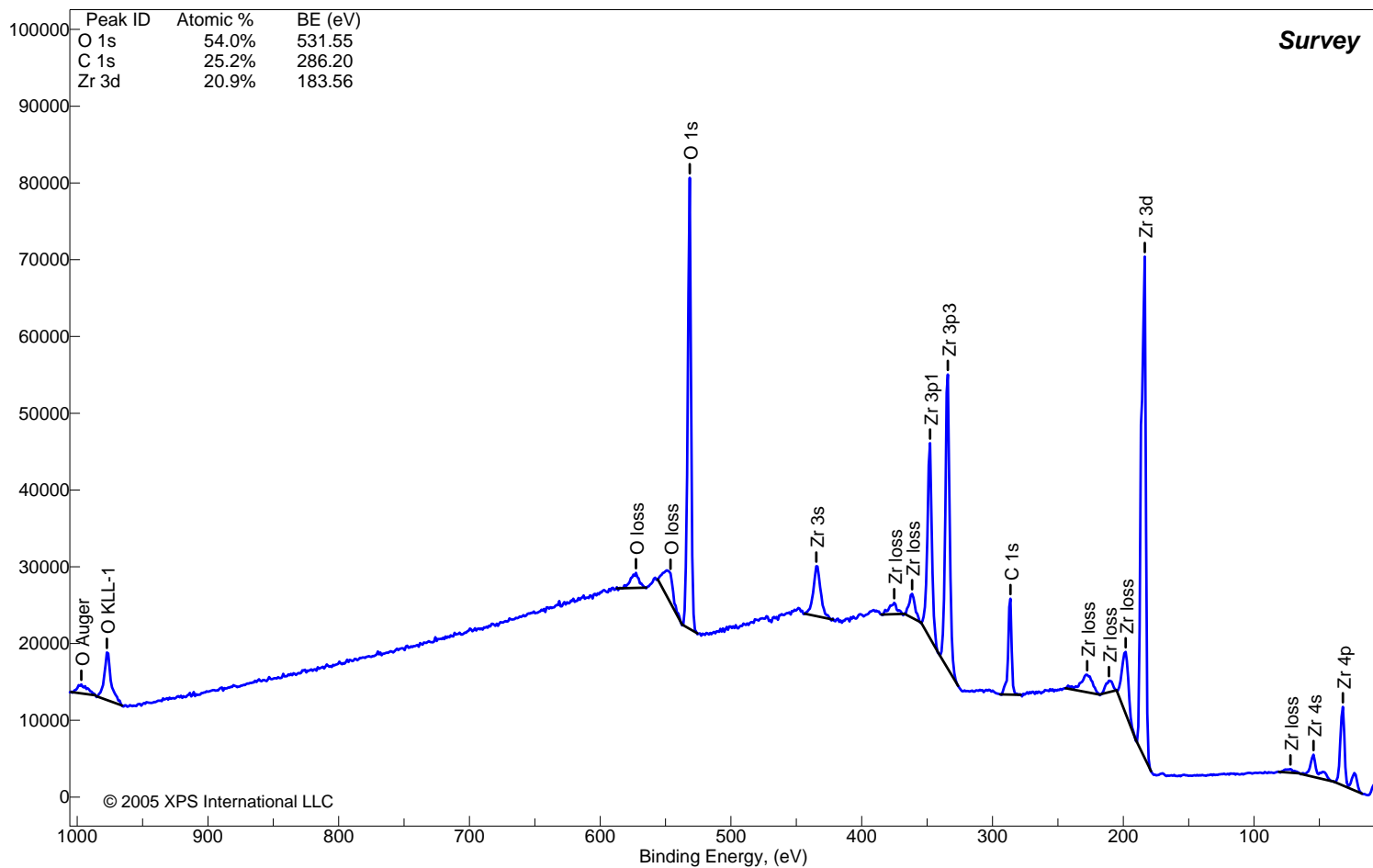
Peak ID	Corrected BE (eV)	Measured BE (eV)	Scofield RSF	RSF Exponent	Normalized Peak Area	Atomic %
Zr 4p	31.0	32.0	1.05	1.5	24,137	
Zr 4s	53.5	54.5	0.37	1.5	9,952	
Zr loss	71.1	72.1	0.00	1.5	1,739	
Zr 3d	182.6	183.6	7.04	1.5	130,138	20.9%
Zr loss	197.2	198.2	0.00	1.5	23,850	
Zr loss	209.9	210.9	0.00	1.5	4,906	
Zr loss	226.5	227.5	0.00	1.5	12,909	
C 1s	285.2	286.2	1.00	1.5	19,708	25.2%
Zr 3p3	333.1	334.1	5.14	1.5	74,274	
Zr 3p1	346.8	347.8	2.64	1.5	50,940	
Zr loss	360.5	361.5	0.00	1.5	8,457	
Zr loss	374.2	375.2	0.00	1.5	4,738	
Zr 3s	433.8	434.8	2.10	1.5	20,668	
O 1s	530.6	531.6	2.93	1.5	87,815	54.0%
O loss	545.2	546.2	0.00	1.5	17,091	
O loss	571.6	572.6	0.00	1.5	6,764	
O KLL-1	976.3	977.3	0.70	1.5	19,912	
O Auger	995.9	996.9	0.00	1.5	4,969	

© 2005 XPS International LLC

**Zirconium (IV) Oxide (FW = 123.22)**

Sample Description: ZrO<sub>2</sub> (99.9%) from Aldrich Lot# 02310BV (<100 ppm HfO<sub>2</sub>),  
pressed into 3 mm pellet, analyzed at 35deg TOA, mesh-screen at 1 mm height

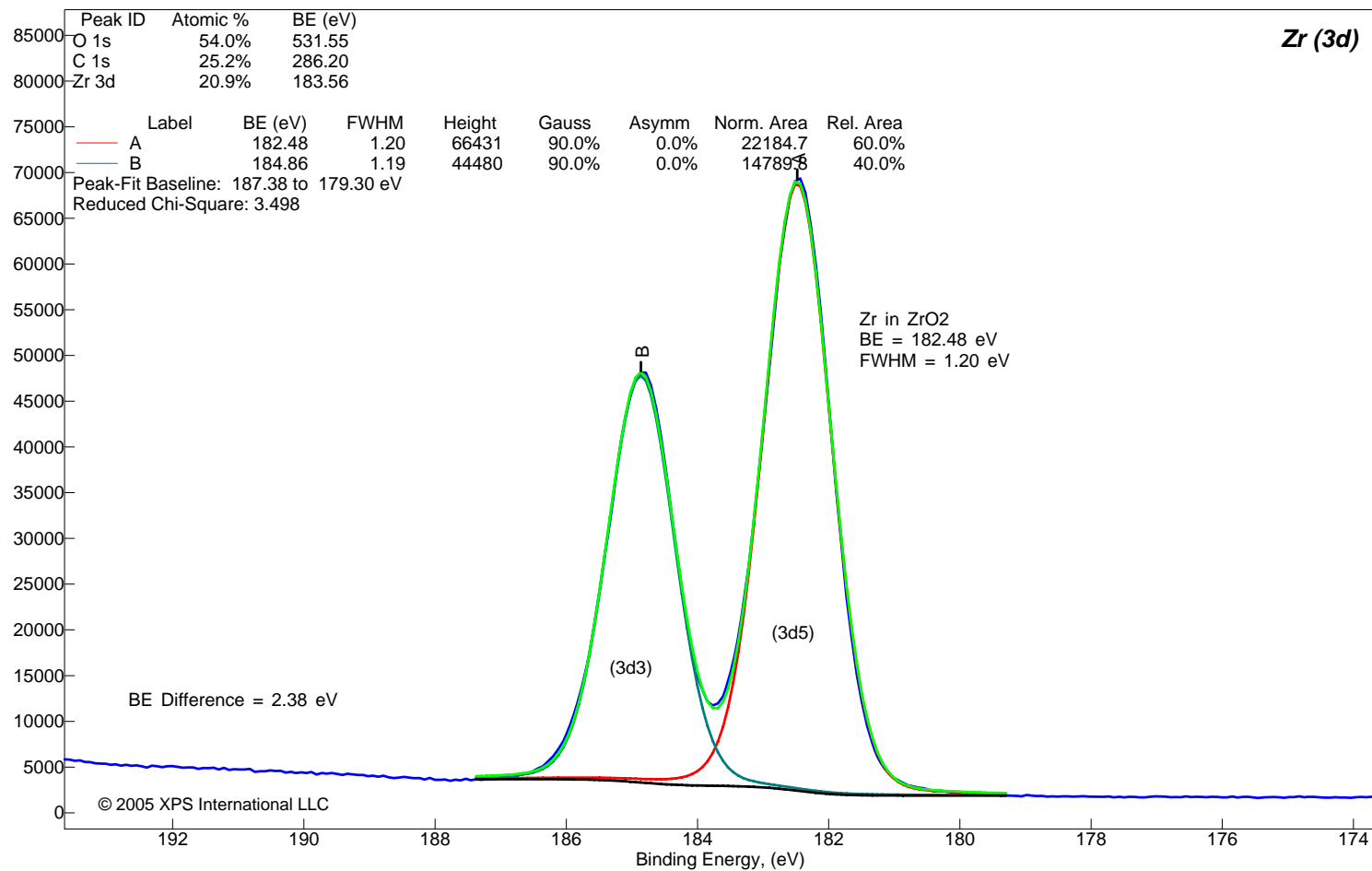
Counts



## Zirconium (IV) Oxide (FW = 123.22)

Sample Description: ZrO<sub>2</sub> (99.9%) Aldrich Lot# 02310BV, 3mm pellet  
( $<100$  ppm HfO<sub>2</sub>), 35 deg TOA

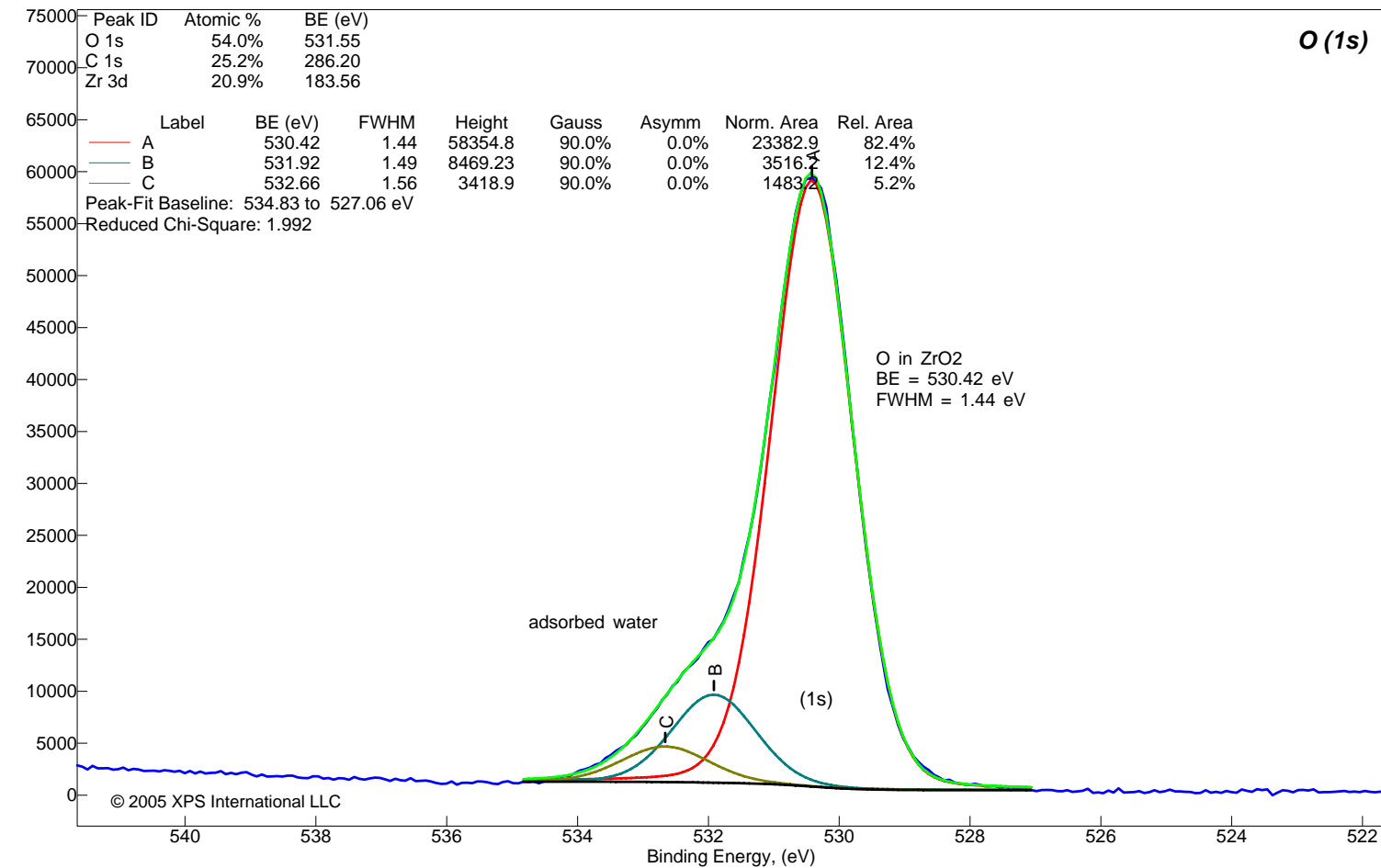
Counts



## Zirconium (IV) Oxide (FW = 123.22)

Sample Description: ZrO<sub>2</sub> (99.9%) Aldrich Lot# 02310BV, 3mm pellet  
( $<100$  ppm HfO<sub>2</sub>), 35 deg TOA

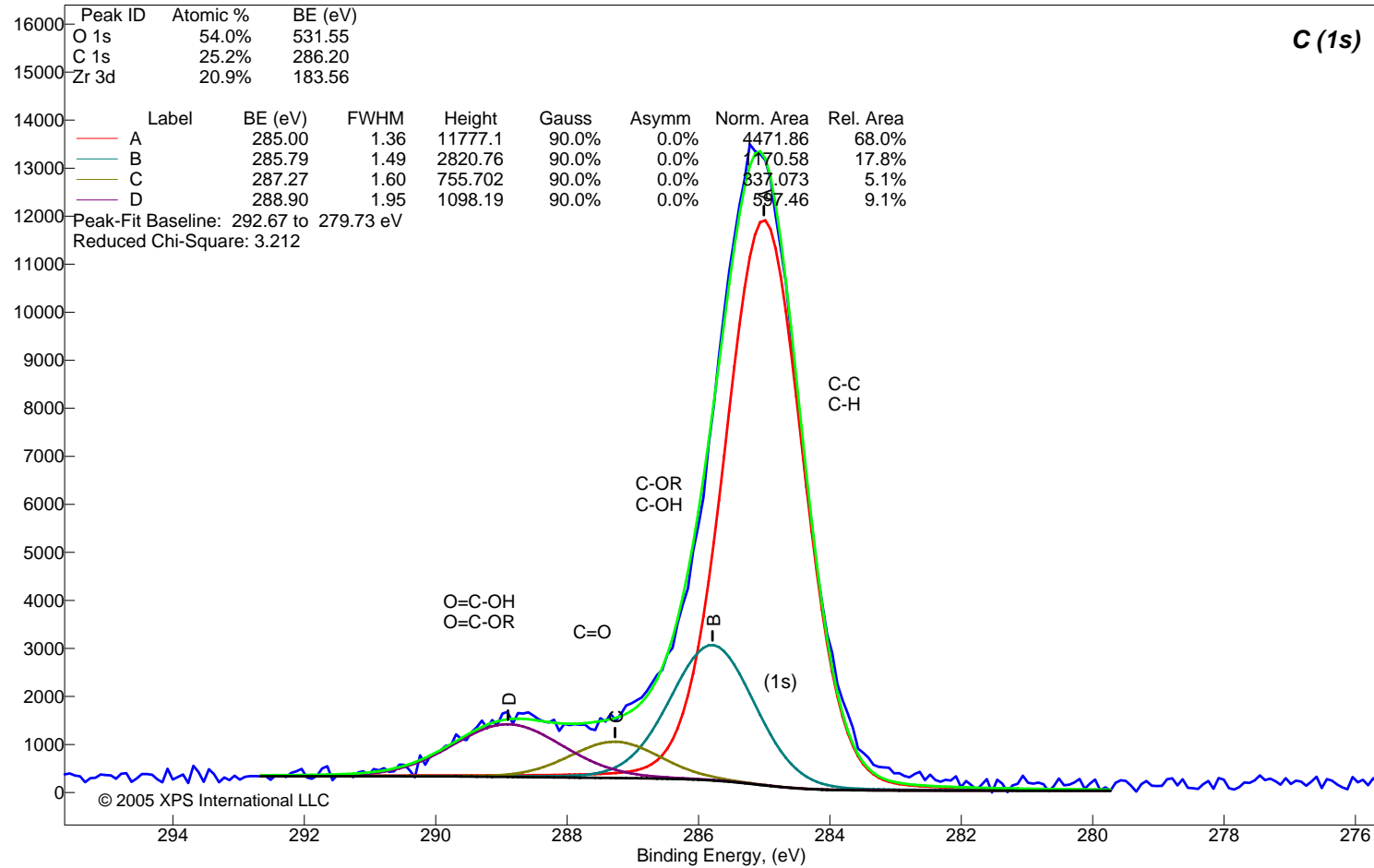
Counts



## Zirconium (IV) Oxide (FW = 123.22)

Sample Description: ZrO<sub>2</sub> (99.9%) Aldrich Lot# 02310BV, 3mm pellet  
( $<100$  ppm HfO<sub>2</sub>), 35 deg TOA

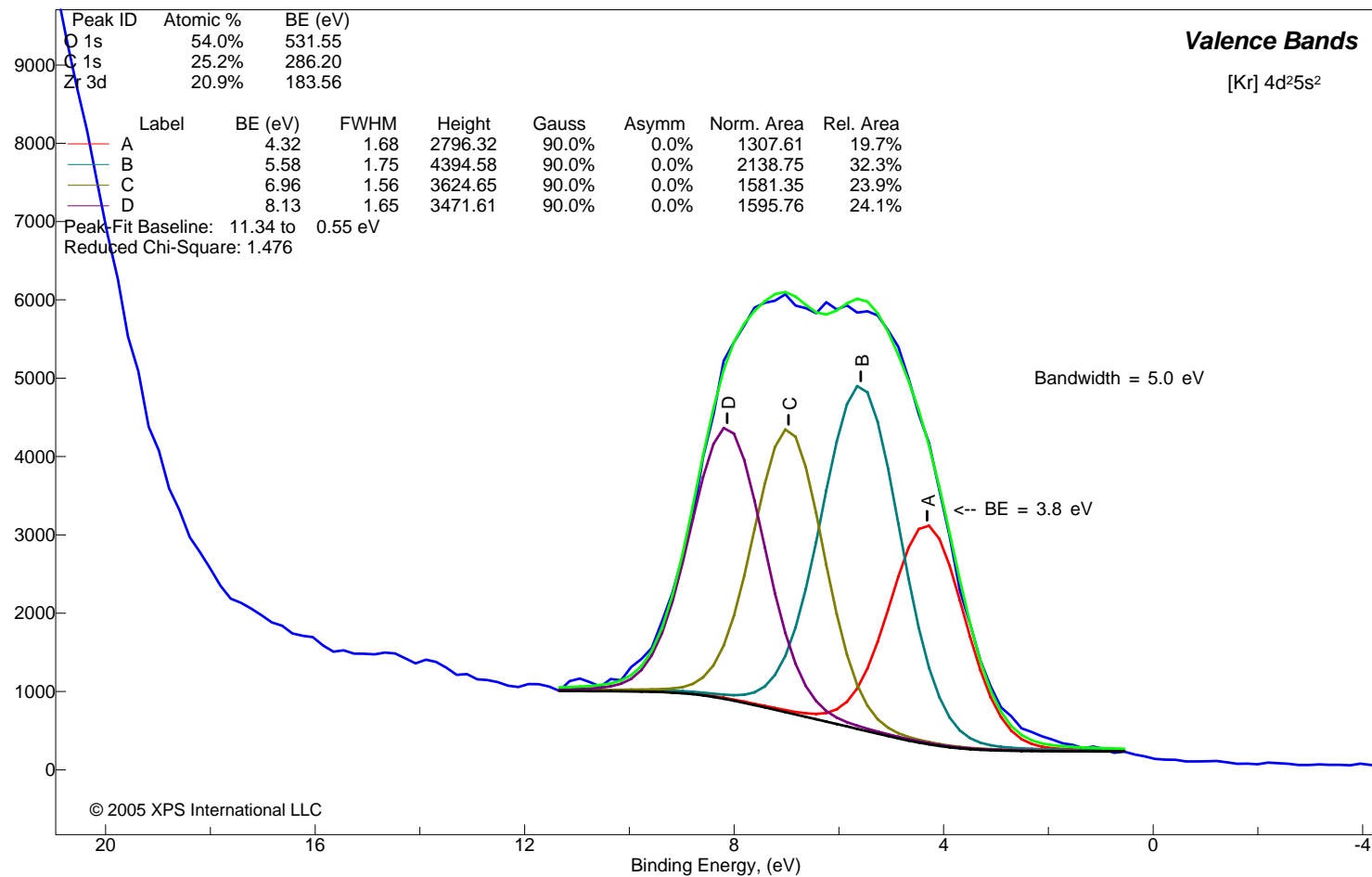
Counts



## Zirconium (IV) Oxide (FW = 123.22)

Sample Description: ZrO<sub>2</sub> (99.9%) Aldrich Lot# 02310BV, 3mm pellet  
(<100 ppm HfO<sub>2</sub>), 35 deg TOA

Counts

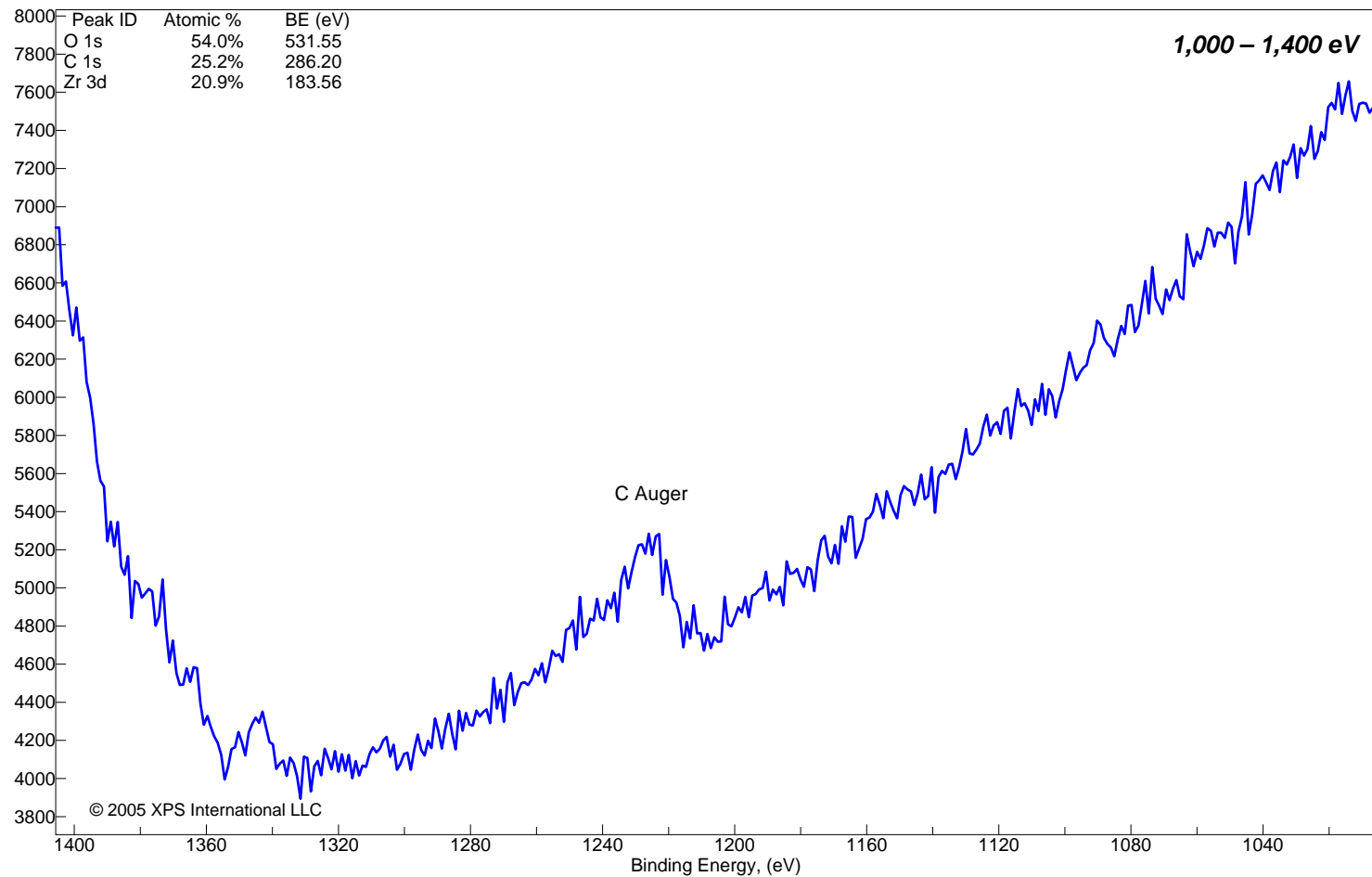


**Zirconium (IV) Oxide (FW = 123.22)**

Sample Description: ZrO<sub>2</sub> (99.9%) Aldrich Lot# 02310BV, 3mm pellet  
(<100 ppm HfO<sub>2</sub>), 35 deg TOA

Counts

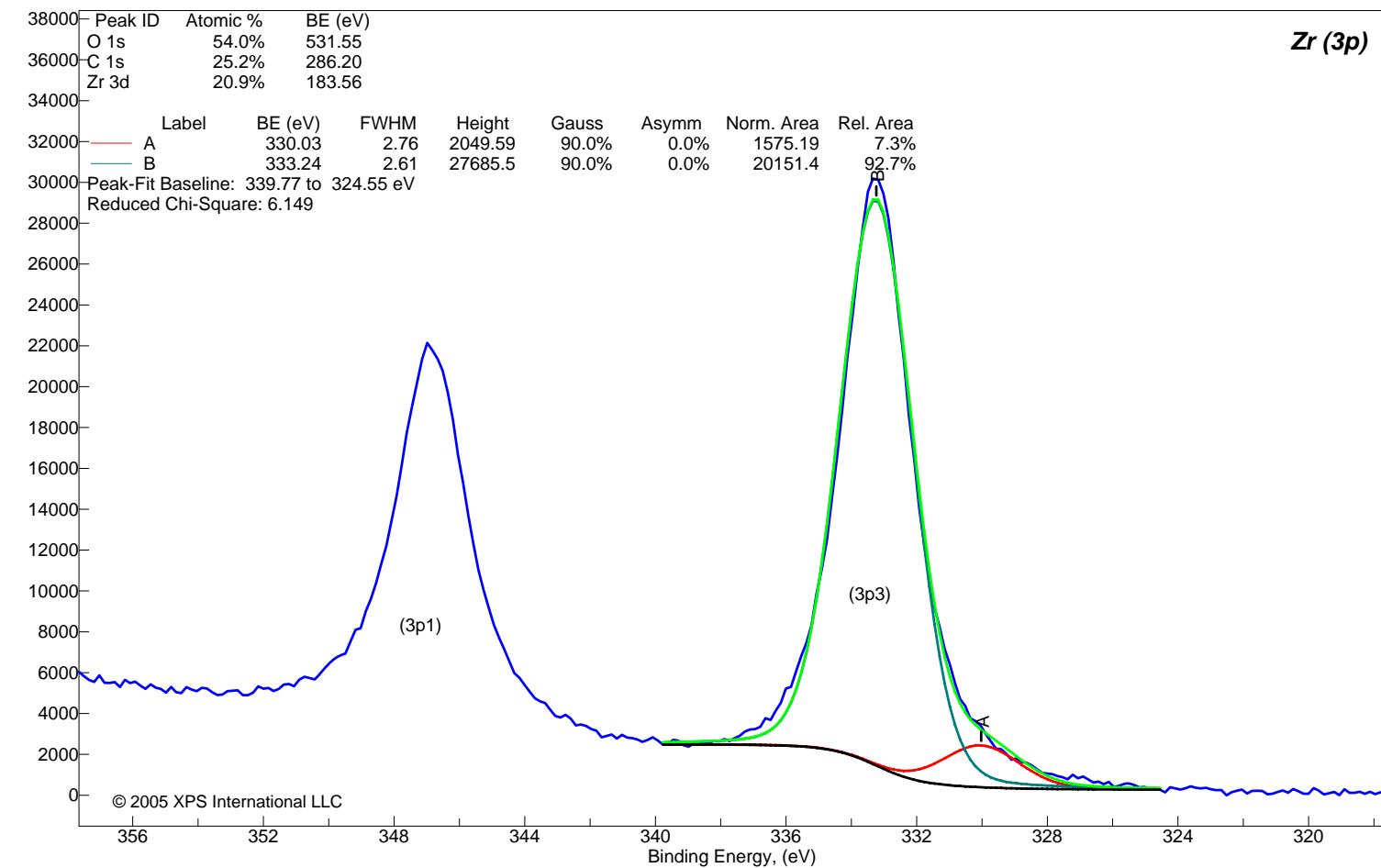
Peak ID	Atomic %	BE (eV)
O 1s	54.0%	531.55
C 1s	25.2%	286.20
Zr 3d	20.9%	183.56



## Zirconium (IV) Oxide (FW = 123.22)

Sample Description: ZrO<sub>2</sub> (99.9%) Aldrich Lot# 02310BV, 3mm pellet  
(<100 ppm HfO<sub>2</sub>), 35 deg TOA

Counts

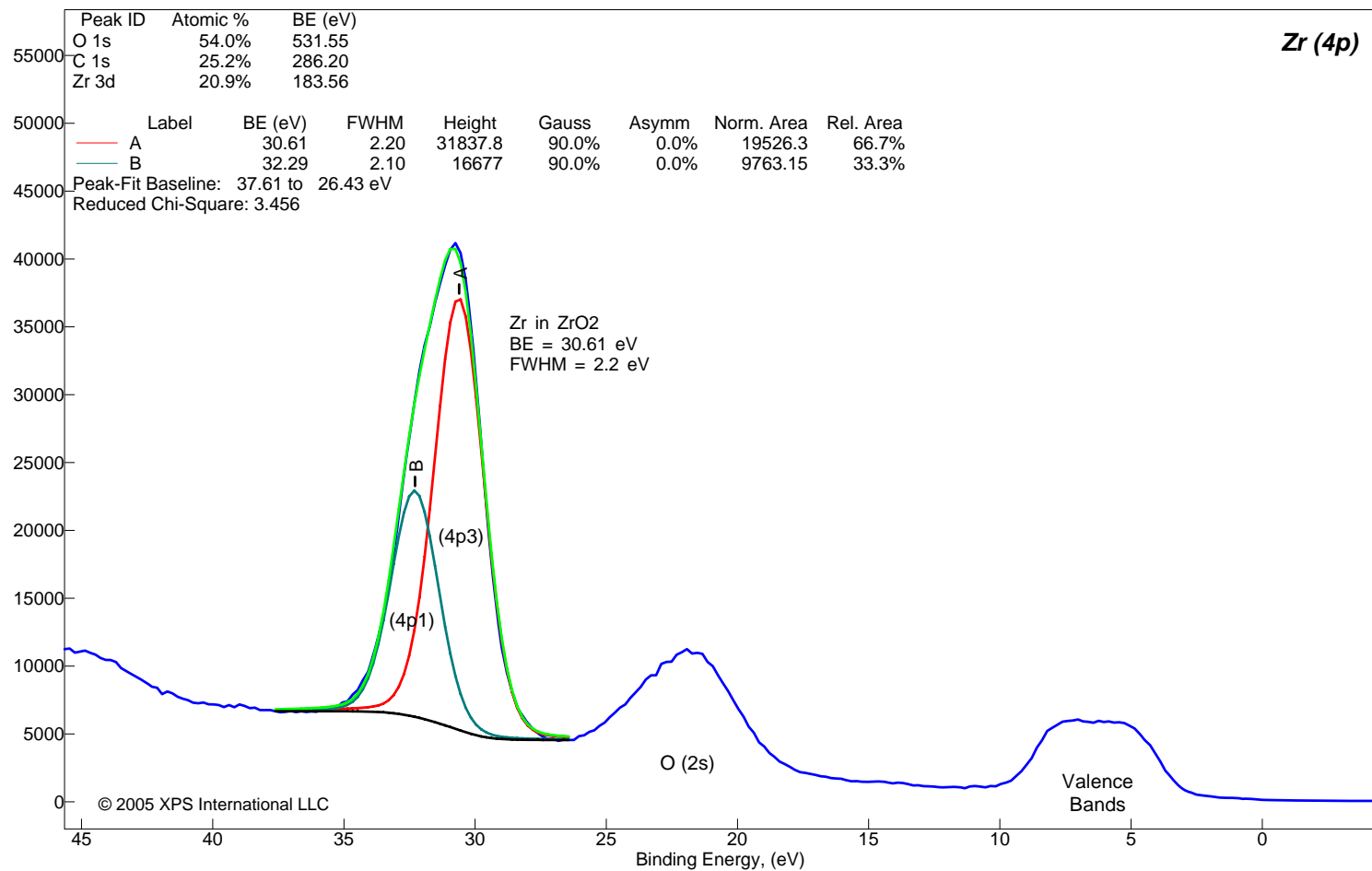




**Zirconium (IV) Oxide (FW = 123.22)**

Sample Description: ZrO<sub>2</sub> (99.9%) Aldrich Lot# 02310BV, 3mm pellet  
( $<100$  ppm HfO<sub>2</sub>), 35 deg TOA

Counts



## Zirconium (IV) Oxide (FW = 123.22)

Sample Description: ZrO<sub>2</sub> (99.9%) Aldrich Lot# 02310BV, 3mm pellet  
(<100 ppm HfO<sub>2</sub>), 35 deg TOA

Counts

