

The Periodic Table

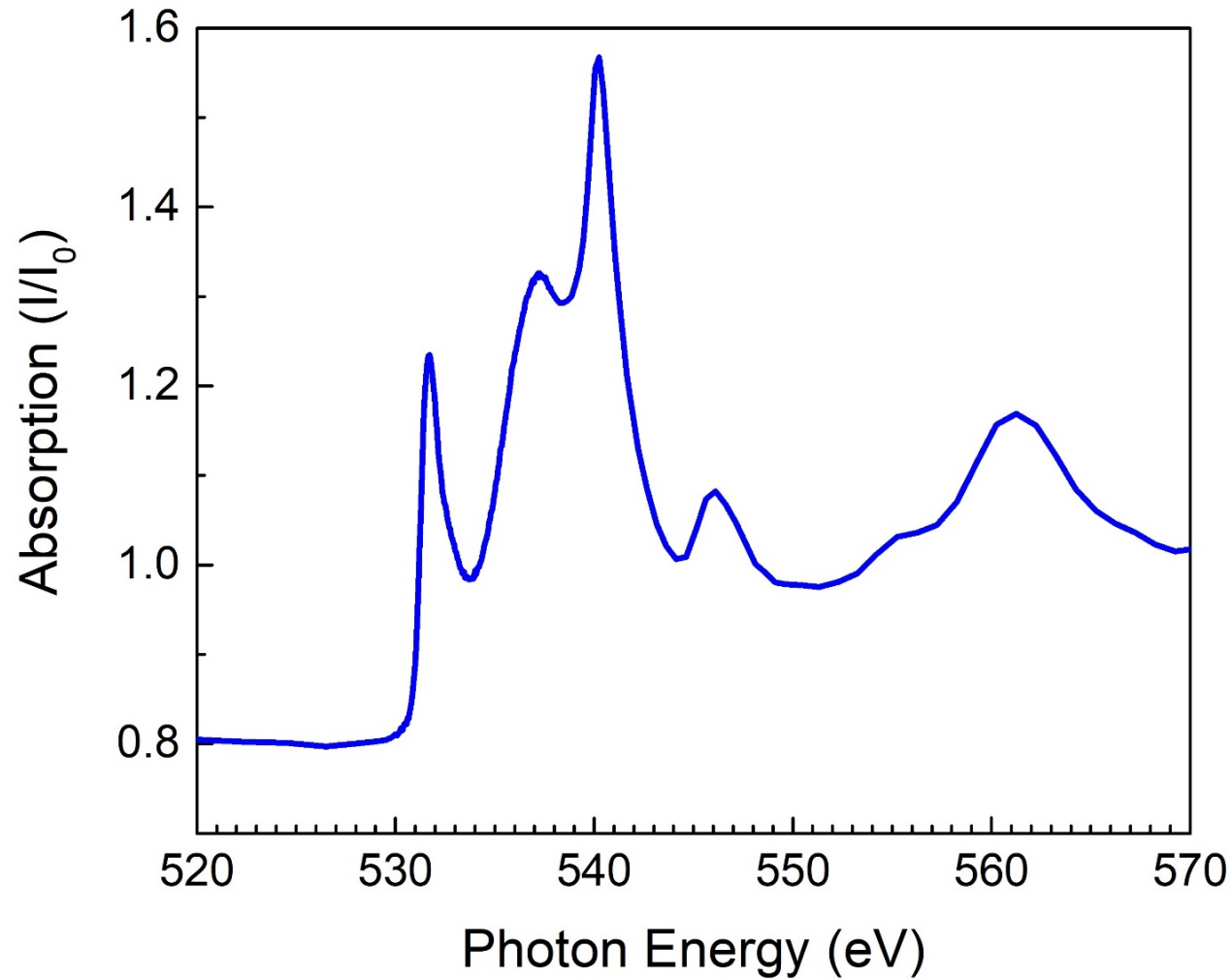
¹ H																	² He
³ Li	⁴ Be											⁵ B	⁶ C	⁷ N	<u>⁸O</u>	⁹ F	¹⁰ Ne
¹¹ Na	<u>¹²Mg</u>											<u>¹³Al</u>	<u>¹⁴Si</u>	<u>¹⁵P</u>	<u>¹⁶S</u>	<u>¹⁷Cl</u>	¹⁸ Ar
<u>¹⁹K</u>	<u>²⁰Ca</u>	²¹ Sc	<u>²²Ti</u>	²³ V	²⁴ Cr	²⁵ Mn	²⁶ Fe	<u>²⁷Co</u>	<u>²⁸Ni</u>	²⁹ Cu	³⁰ Zn	³¹ Ga	³² Ge	³³ As	³⁴ Se	³⁵ Br	³⁶ Kr
³⁷ Rb	³⁸ Sr	³⁹ Y	⁴⁰ Zr	⁴¹ Nb	⁴² Mo	⁴³ Tc	⁴⁴ Ru	⁴⁵ Rh	⁴⁶ Pd	⁴⁷ Ag	⁴⁸ Cd	⁴⁹ In	⁵⁰ Sn	⁵¹ Sb	⁵² Te	⁵³ I	⁵⁴ Xe
⁵⁵ Cs	⁵⁶ Ba	⁵⁷ La	⁷² Hf	⁷³ Ta	⁷⁴ W	⁷⁵ Re	⁷⁶ Os	⁷⁷ Ir	⁷⁸ Pt	⁷⁹ Au	⁸⁰ Hg	⁸¹ Tl	⁸² Pb	⁸³ Bi	⁸⁴ Po	⁸⁵ At	⁸⁶ Rn
⁸⁷ Fr	⁸⁸ Ra	⁸⁹ Ac															
Lanthanide			⁵⁸ Ce	⁵⁹ Pr	⁶⁰ Nd	⁶¹ Pm	⁶² Sm	⁶³ Eu	⁶⁴ Gd	⁶⁵ Tb	⁶⁶ Dy	⁶⁷ Ho	⁶⁸ Er	⁶⁹ Tm	⁷⁰ Yb	⁷¹ Lu	
Actinide			⁹⁰ Th	⁹¹ Pa	⁹² U												

BL1N2: 150 ~ 2,000 eV
 BL6N1: 1,750 ~ 6,000 eV
 BL7U: 30 ~ 850 eV

K edge: ⁵B ~ ¹⁴Si L edge: ¹⁶S ~ ³⁵Br
 K edge: ¹⁴Si ~ ²²Ti L edge: ³⁷Rb ~ ⁵⁵Cs
 K edge: ³Li ~ ⁹F L edge: ¹³Al ~ ²⁷Co

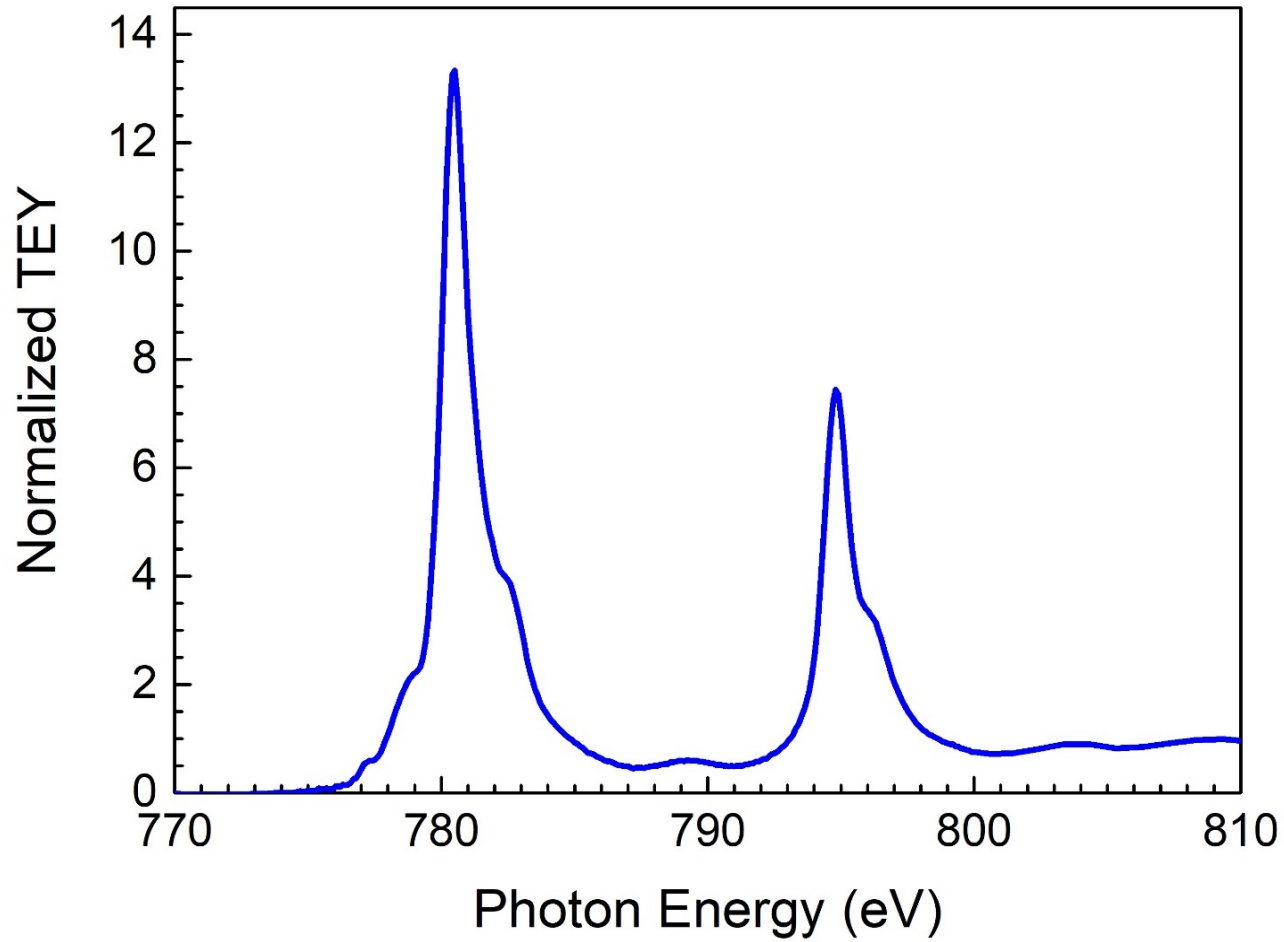
O K edge

[Back to the periodic table](#)



Material	NiO	
Beamline	BL1N2	
Monochromator	G1: 500 lines/mm	
Slits	S1 = S2 = 30 μm	
Energy Calibration	Au 4f _{7/2} @ 510 eV	
Range	510 ~ 700 eV	
Energy & Step (eV)	510	2.00
	529	0.50
	530	0.05
	538	0.20
	542	0.50
	550	1.00
	580	2.00
	620	5.00
	700	
dwelling time	3 sec.	
measured for	21 min.	
Method	TEY	
detector	I ₀ : Au mesh	
	(sample current)	
Date	2018/9/12	
Note	powder on In sheet	

Co L edge

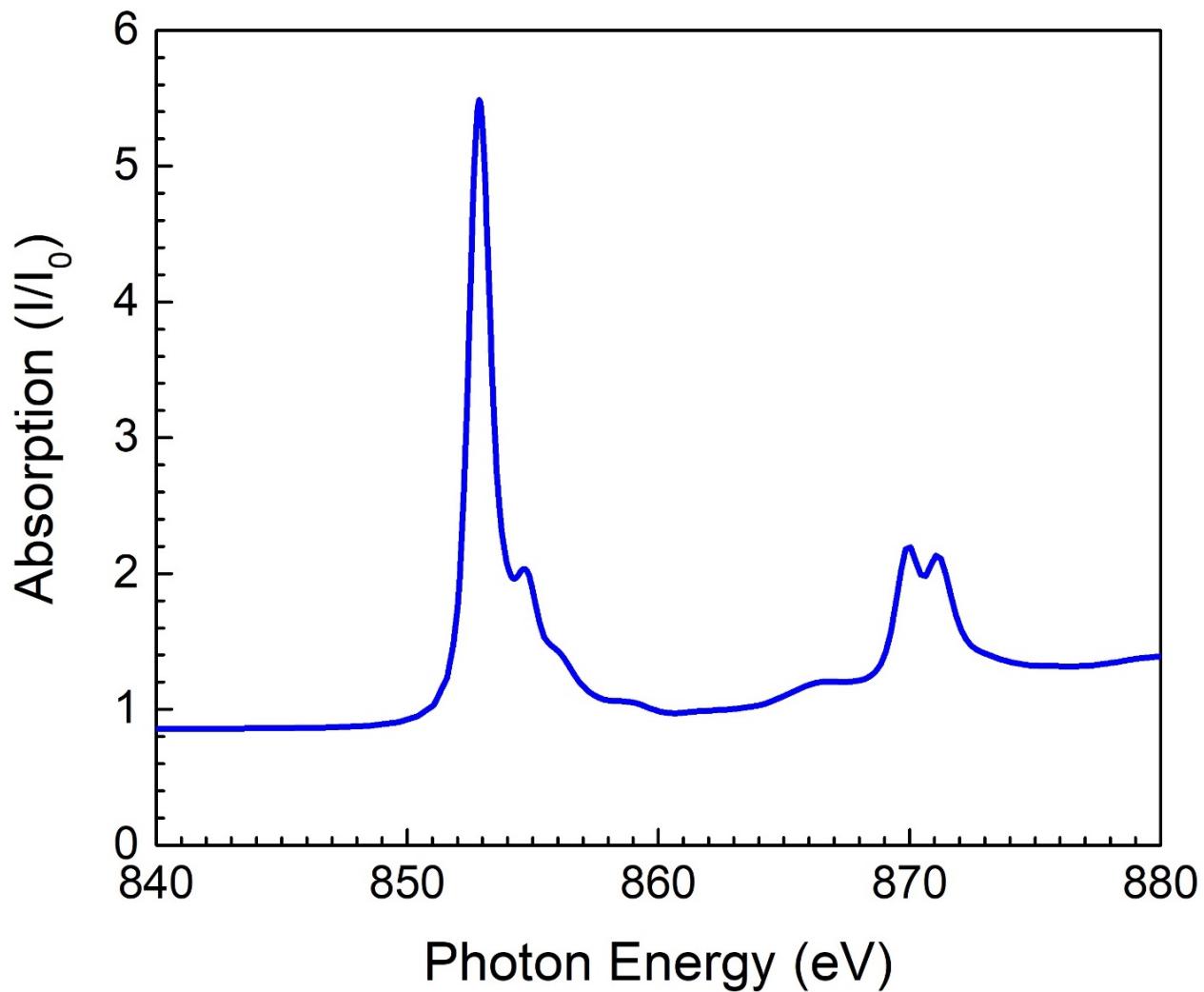


[Back to the periodic table](#)

Material	LiCoO ₂	
Beamline	BL1N2	
Monochromator	G1: 500 lines/mm	
Slits	S1 = S2 = 30 μm	
Energy Calibration	Au 4f _{7/2} @ 750 eV	
Range	750 ~ 845 eV	
Energy & Step (eV)	750	1.00
	774	0.10
	800	1.00
	845	
dwelling time	3 sec.	
measured for	25 min.	
Method	TEY	
detector	I ₀ : Au mesh	
	(sample current)	
Date	2018/7/13	
Note	powder on In sheet	

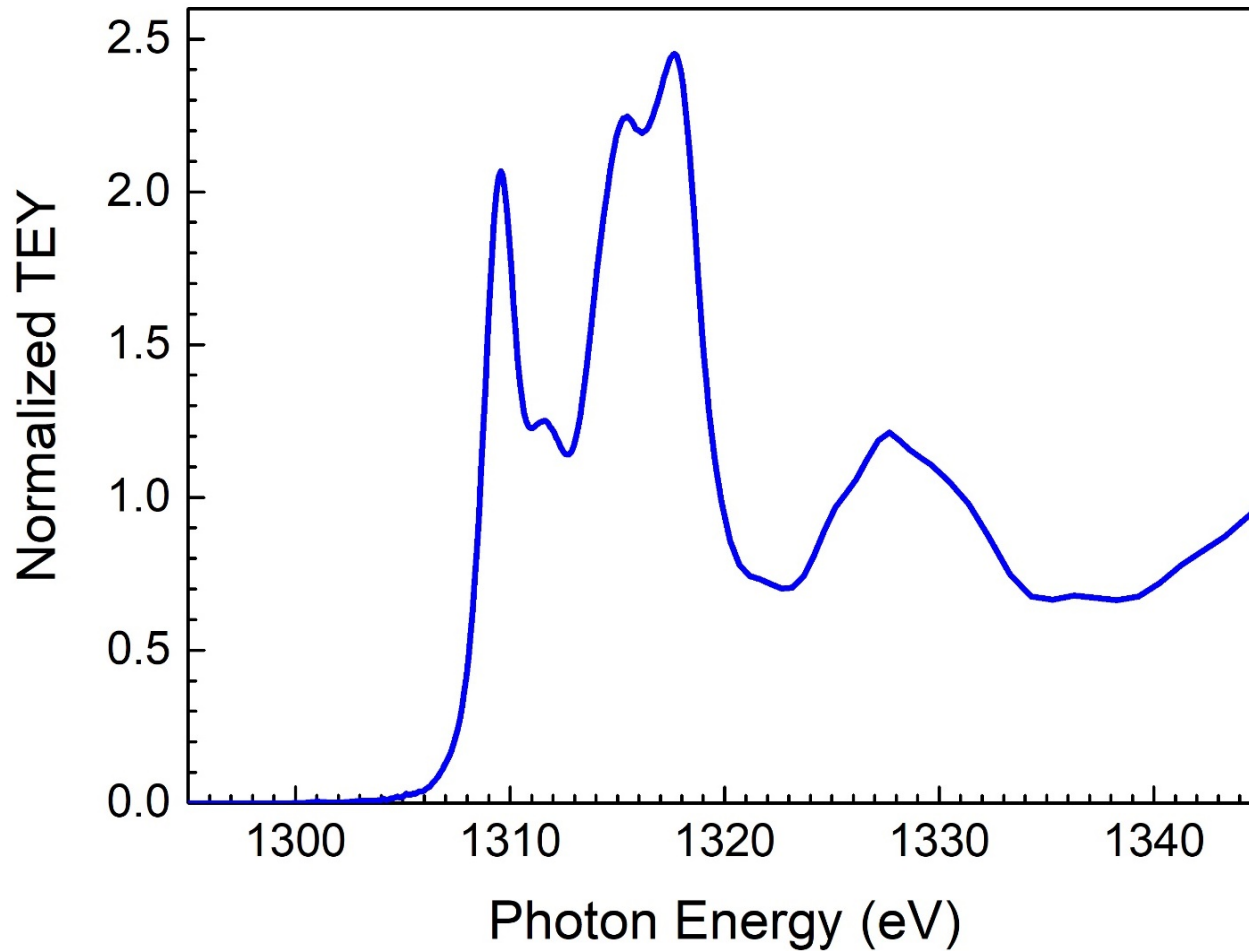
Ni L edge

[Back to the periodic table](#)



Material	NiO	
Beamline	BL1N2	
Monochromator	G1: 500 lines/mm	
Slits	S1 = S2 = 30 μm	
Energy Calibration	Au 4f _{7/2} @ 830 eV	
Range	830 ~ 950 eV	
Energy & Step (eV)	830	2.00
	850	0.50
	852	0.05
	855	0.20
	880	1.00
	890	2.00
	950	
dwelling time	3 sec.	
measured for	18 min.	
Method	TEY	
detector	I ₀ : Au mesh	
	(sample current)	
Date	2018/9/12	
Note	powder on In sheet	

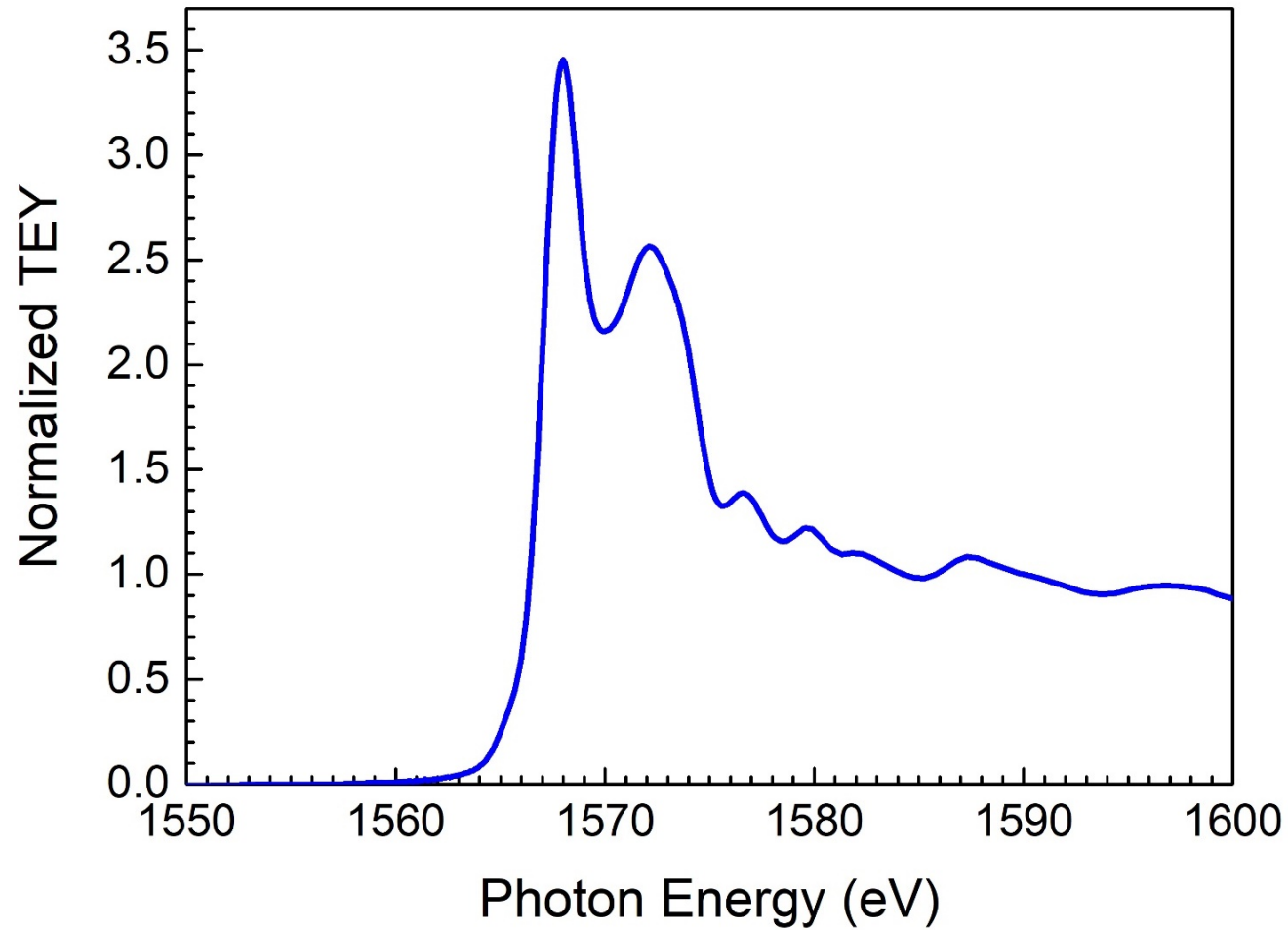
Mg K edge



[Back to the periodic table](#)

Material	MgO	
Beamline	BL1N2	
Monochromator	G2: 1,000 lines/mm	
Slits	S1 = S2 = 50 μ m	
Energy Calibration	Au 4f _{7/2} @ 1,270 eV	
Range	1,270 ~ 1,450 eV	
Energy & Step (eV)	1,270	3.00
	1,300	0.50
	1,304	0.10
	1,320	0.50
	1,330	1.00
	1,360	3.00
	1,450	
dwelling time	5 sec.	
measured for	28 min.	
Method	TEY	
detector	I ₀ : Au mesh	
	(sample current)	
Date	2018/7/13	
Note	powder on In sheet	

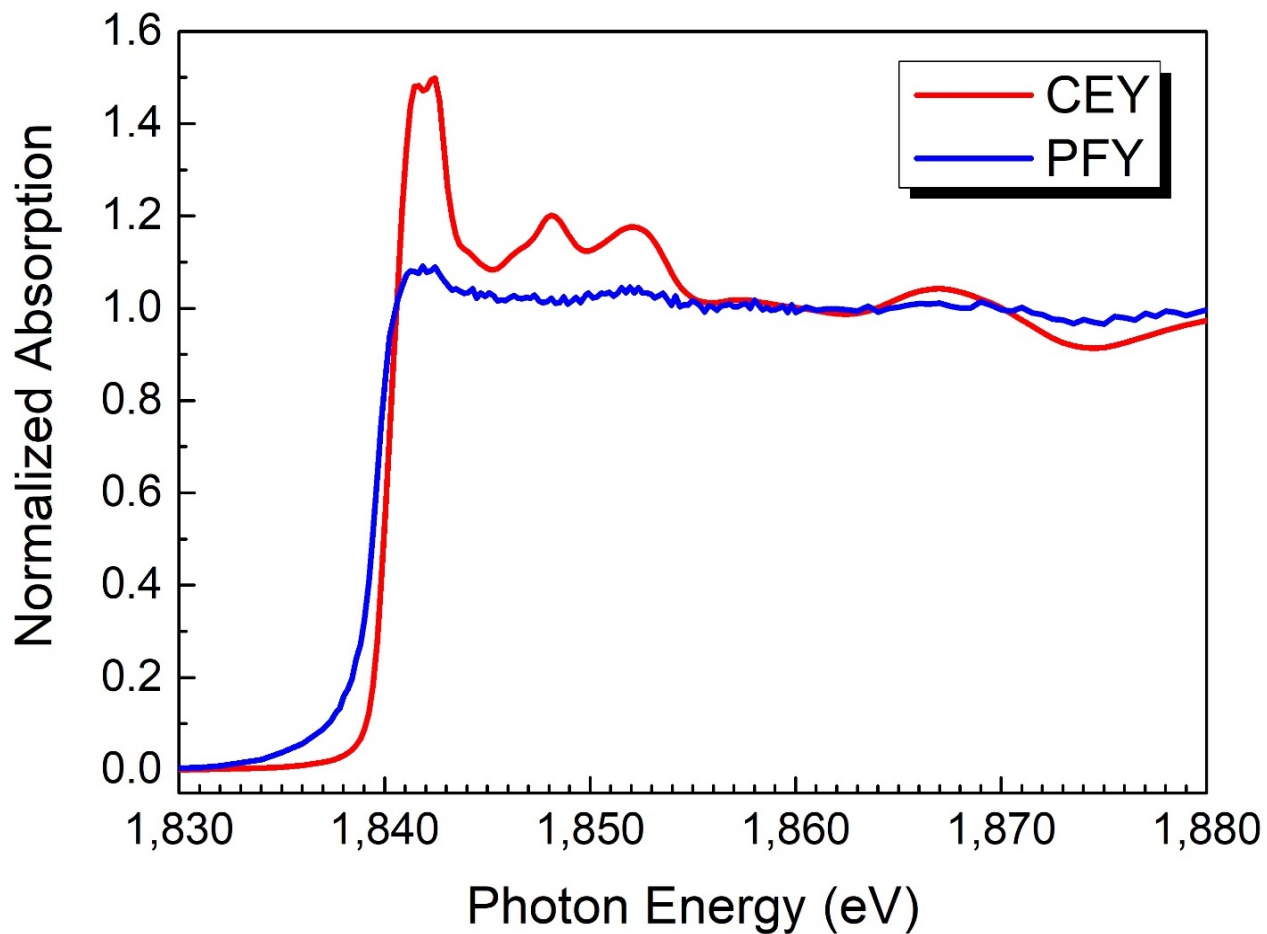
Al K edge



[Back to the periodic table](#)

Material	Al ₂ O ₃	
Beamline	BL1N2	
Monochromator	G2: 1,000 lines/mm	
Slits	S1 = S2 = 50 μm	
Energy Calibration	Au 4f _{7/2} @ 1,500 eV	
Range	1,500 ~ 1,750 eV	
Energy & Step (eV)	1,500	2.00
	1,550	0.50
	1,560	0.10
	1,580	0.50
	1,600	2.00
	1,650	5.00
	1,750	
dwelling time	5 sec.	
measured for	35 min.	
Method	TEY	
detector	I ₀ : Au mesh	
	(sample current)	
Date	2018/7/13	
Note	powder on In sheet	

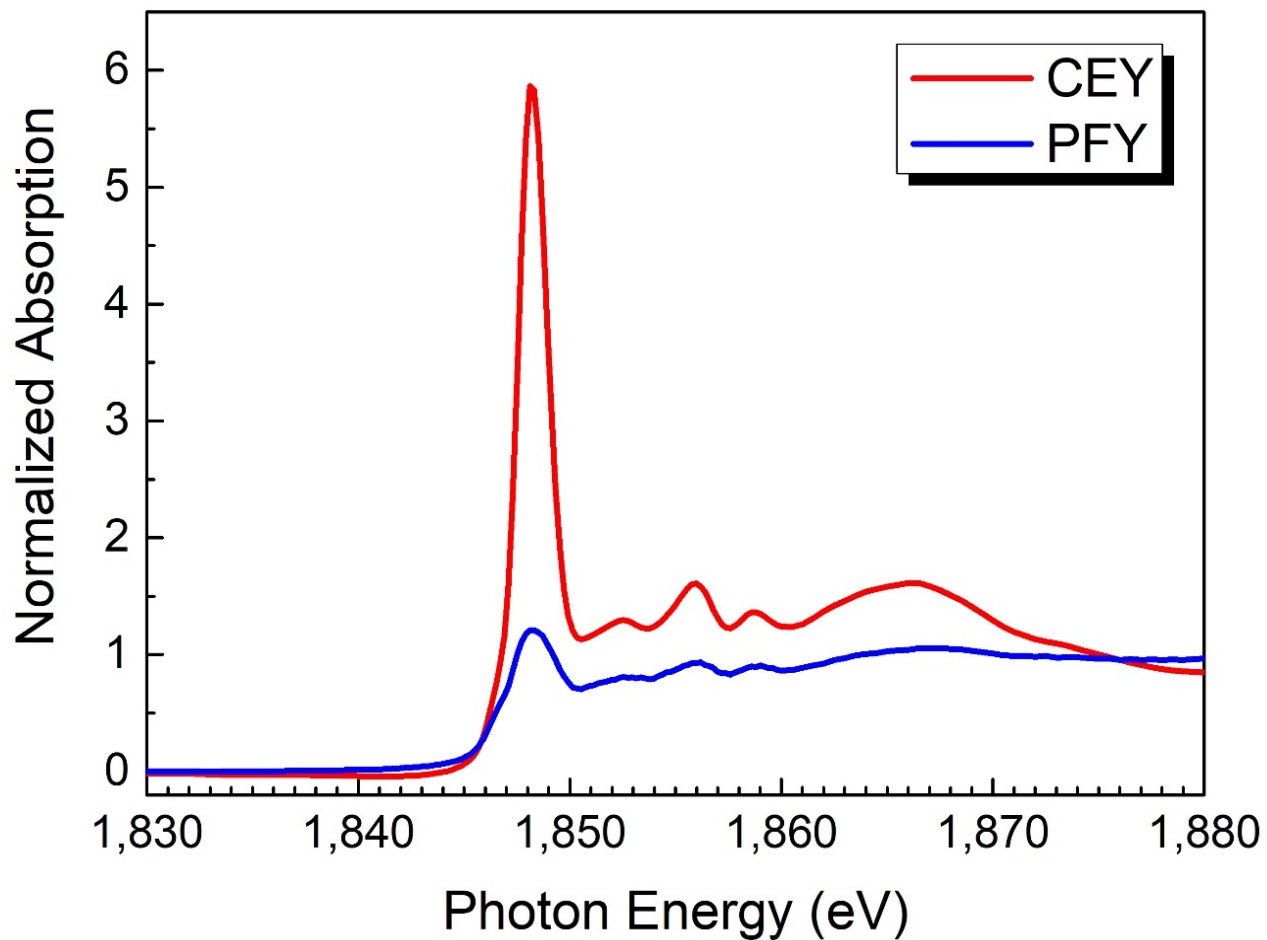
Si K edge



[Back to the periodic table](#)

Material	Si	
Beamline	BL6N1	
Monochromator	InSb (111)	
Slits	3 x 10 mm	
Energy Calibration	S K edge of K ₂ SO ₄ (2,481.7 eV)	
Range	1,820 ~ 1,890 eV	
Energy & Step (eV)	1,820	1.00
	1,837	0.20
	1,860	0.50
	1,890	
dwelling time	1 sec.	
measured for	8 min.	
Method	CEY / PFY	
detector	I ₀ : Au mesh	
	CEY: He 0.1 Mpa	
	PFY: Vortex -EM	
Date	2018/12/5	
Note	wafer	

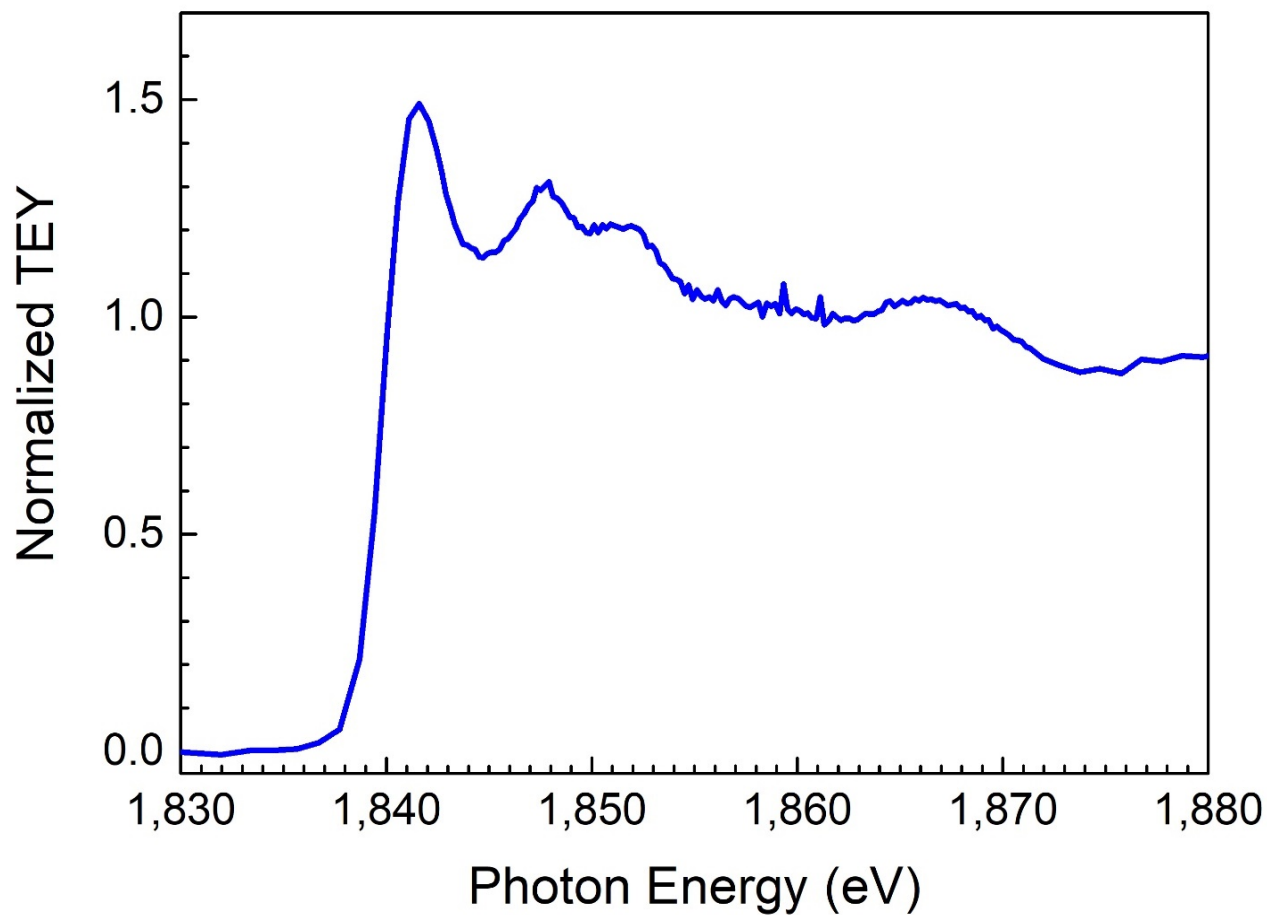
Si K edge



[Back to the periodic table](#)

Material	SiO ₂	
Beamline	BL6N1	
Monochromator	InSb (111)	
Slits	3 x 10 mm	
Energy Calibration	S K edge of K ₂ SO ₄ (2,481.7 eV)	
Range	1,820 ~ 1,890 eV	
Energy & Step (eV)	1,820	1.00
	1,837	0.20
	1,860	0.50
	1,890	
dwelling time	1 sec.	
measured for	8 min.	
Method	CEY / PFY	
detector	I ₀ : Au mesh	
	CEY: He 0.1 Mpa	
	PFY: Vortex -EM	
Date	2018/12/5	
Note	wafer	

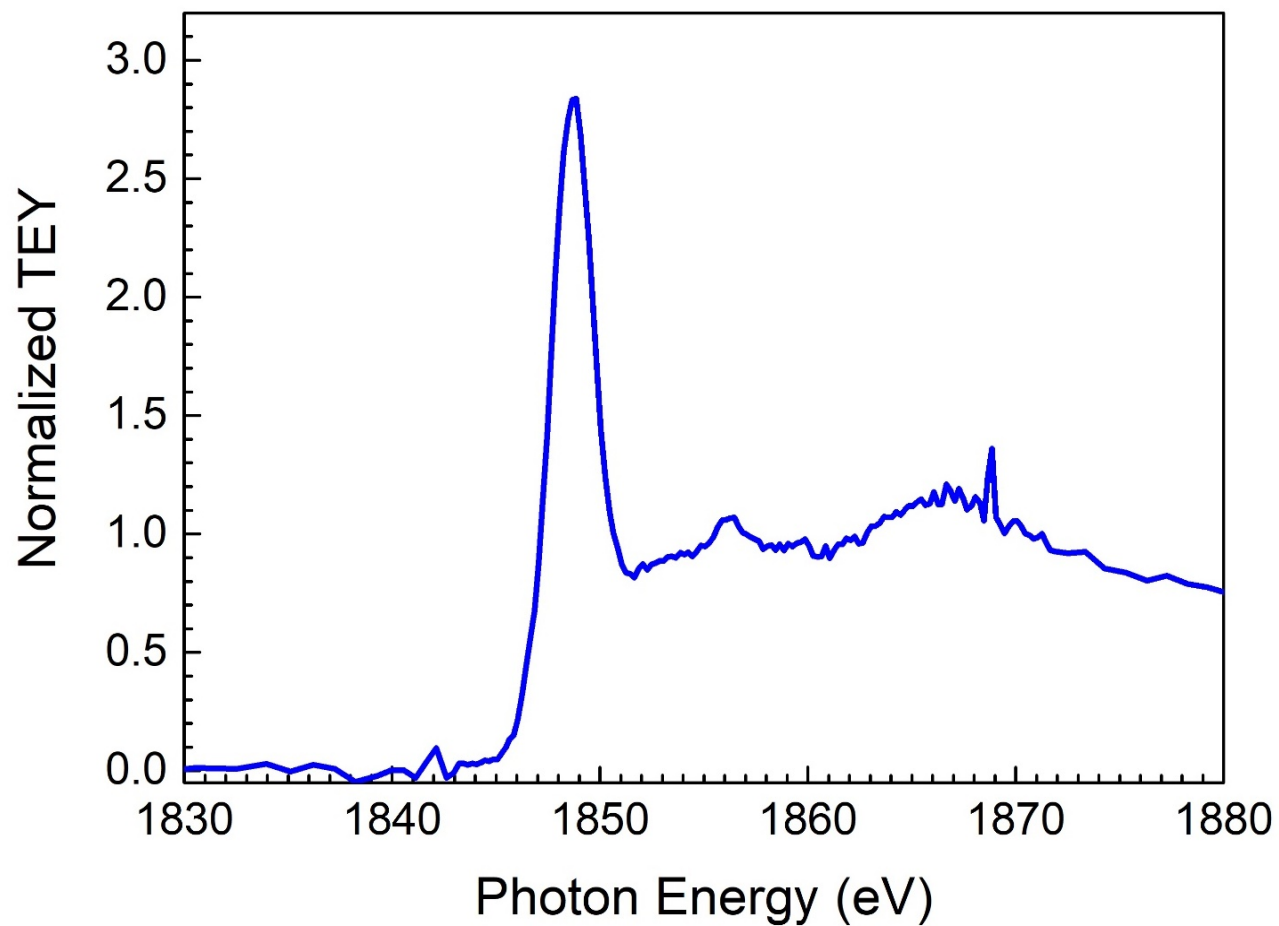
Si K edge



[Back to the periodic table](#)

Material	Si	
Beamline	BL1N2	
Monochromator	G2: 1,000 lines/mm	
Slits	S1 = S2 = 50 μ m	
Energy Calibration	Au 4f _{7/2} @ 1,800 eV	
Range	1,800 ~ 1,950 eV	
Energy & Step (eV)	1,800	2.00
	1,835	1.00
	1,840	0.50
	1,843	0.20
	1,872	1.00
	1,900	2.00
	1,950	
dwelling time	3 sec.	
measured for	18 min.	
Method	TEY	
detector	I ₀ : Au mesh	
	(sample current)	
Date	2018/7/13	
Note	wafer	

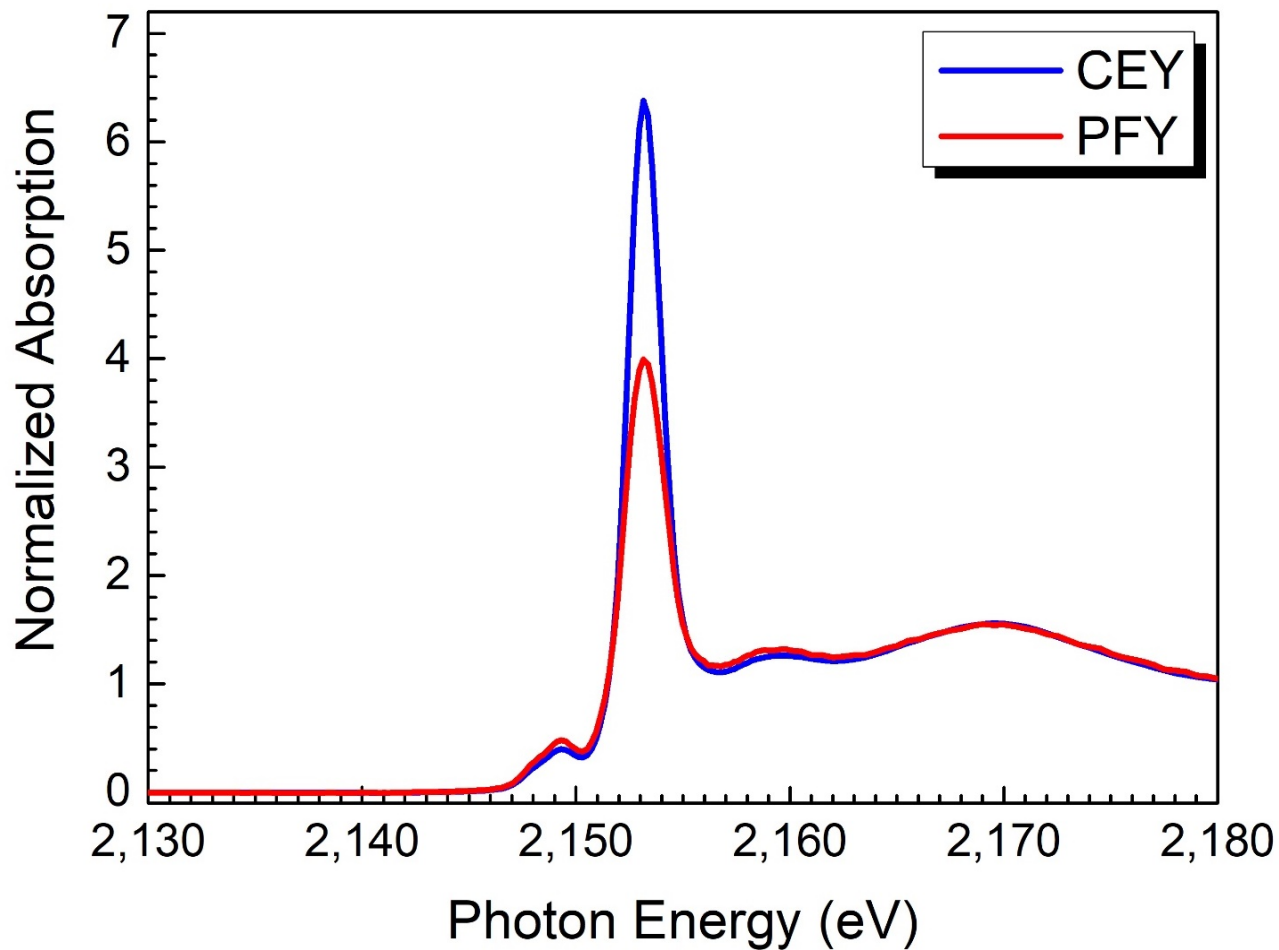
Si K edge



[Back to the periodic table](#)

Material	SiO ₂	
Beamline	BL1N2	
Monochromator	G2: 1,000 lines/mm	
Slits	S1 = S2 = 50 μm	
Energy Calibration	Au 4f _{7/2} @ 1,800 eV	
Range	1,800 ~ 1,950 eV	
Energy & Step (eV)	1,800	2.00
	1,835	1.00
	1,840	0.50
	1,843	0.20
	1,872	1.00
	1,900	2.00
	1,950	
dwelling time	3 sec.	
measured for	18 min.	
Method	TEY	
detector	I ₀ : Au mesh (sample current)	
Date	2018/7/13	
Note	wafer	

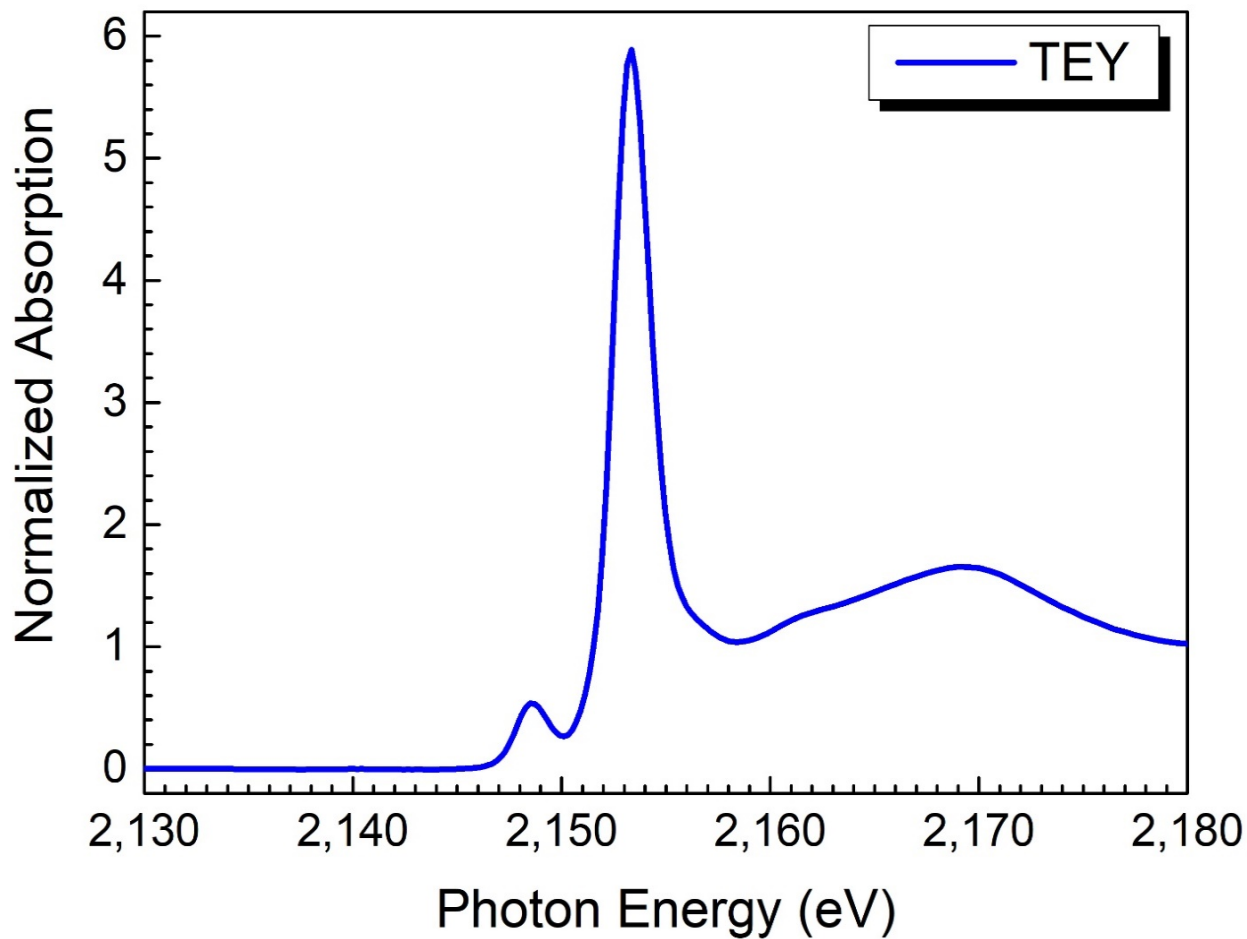
P K edge



[Back to the periodic table](#)

Material	FePO ₄ nH ₂ O	
Beamline	BL6N1	
Monochromator	InSb (111)	
Slits	3 x 10 mm	
Energy Calibration	S K edge of K ₂ SO ₄ (2,481.7 eV)	
Range	2,120 ~ 2,210 eV	
Energy & Step (eV)	2,120	0.50
	2,140	0.20
	2,160	0.50
	2,210	
dwelling time	1 sec.	
measured for	8 min.	
Method	CEY / PFY	
detector	I ₀ : Au mesh	
	CEY: He 0.1 MPa	
	PFY: Vortex -EM	
Date	2018/12/5	
Note	powder on carbon tape	

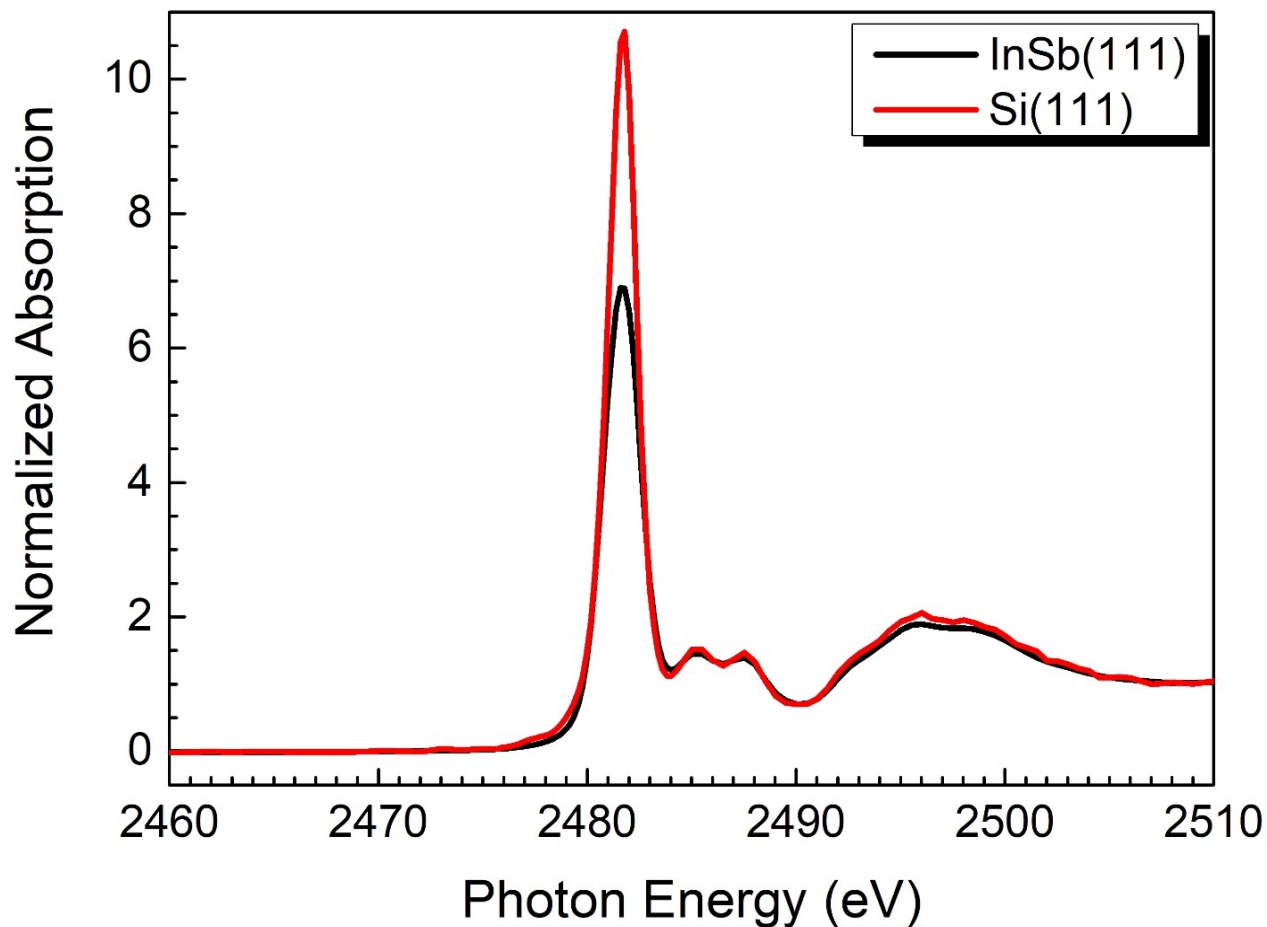
P K edge



[Back to the periodic table](#)

Material	FePO ₄ nH ₂ O	
Beamline	BL6N1	
Monochromator	InSb (111)	
Slits	3 x 10 mm	
Energy Calibration	S K edge of K ₂ SO ₄ (2,481.7 eV)	
Range	2,120 ~ 2,210 eV	
Energy & Step (eV)	2,120	0.5
	2,140	0.2
	2,160	0.5
	2,210	
dwelling time	1 sec.	
measured for	8 min.	
Method	TEY	
detector	I ₀ : Au mesh	
	(sample current)	
Date	2018/12/5	
Note	powder on carbon tape	

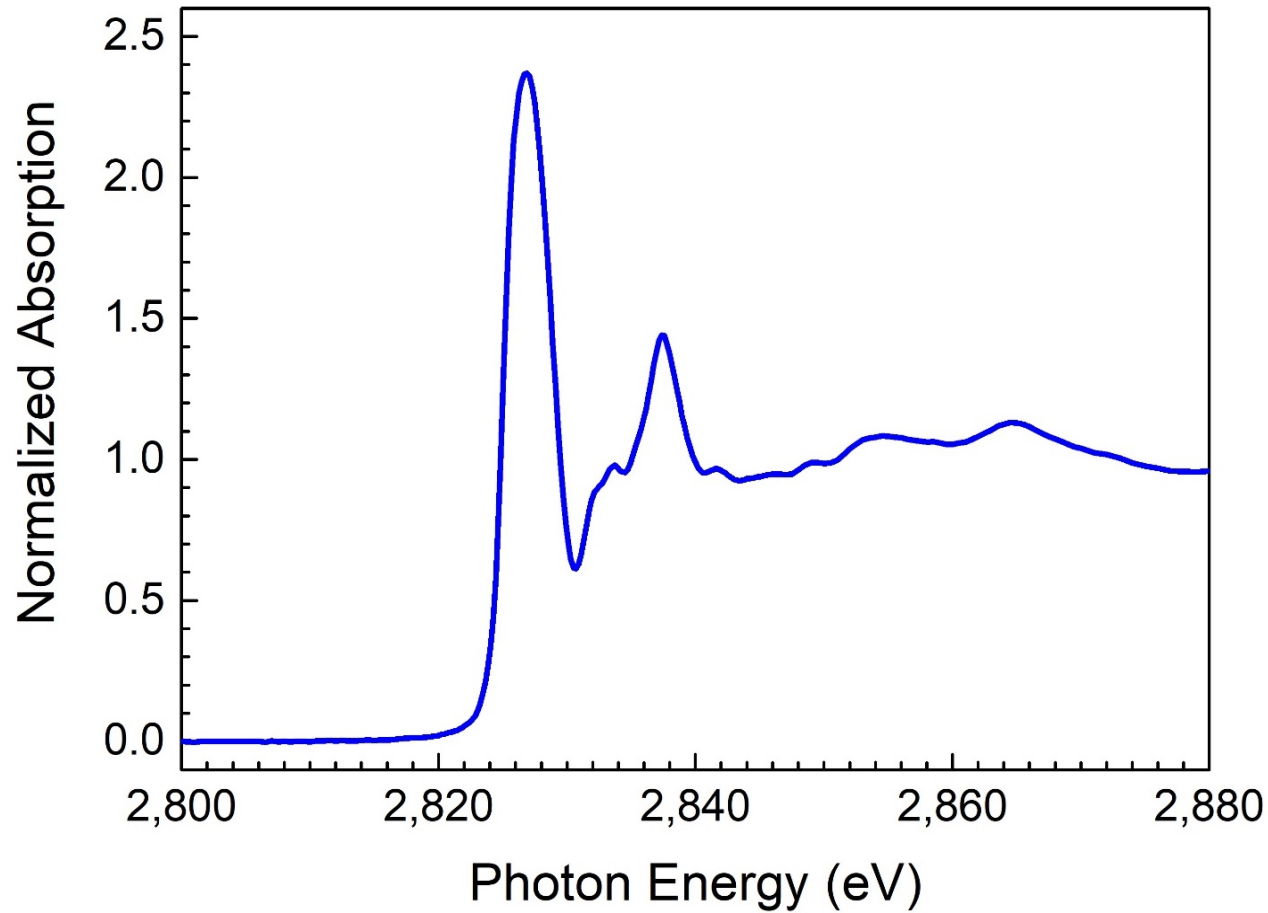
S K edge



[Back to the periodic table](#)

Material	K ₂ SO ₄	
Beamline	BL6N1	
Monochromator	InSb (111) / Si (111)	
Slits	3 x 10 mm	
Energy Calibration	S K edge of K ₂ SO ₄ (2,481.7 eV)	
Range	2,440 ~ 2,550 eV	
Energy & Step (eV)	2,440	1.00
	2,465	0.20
	2,485	0.50
	2,506	1.00
	2,550	
dwelling time	1 sec.	
measured for	7 min.	
Method	CEY	
detector	I ₀ : Au mesh	
	CEY: He 0.1 MPa	
Date	2018/12/5	
Note	powder on carbon tape	

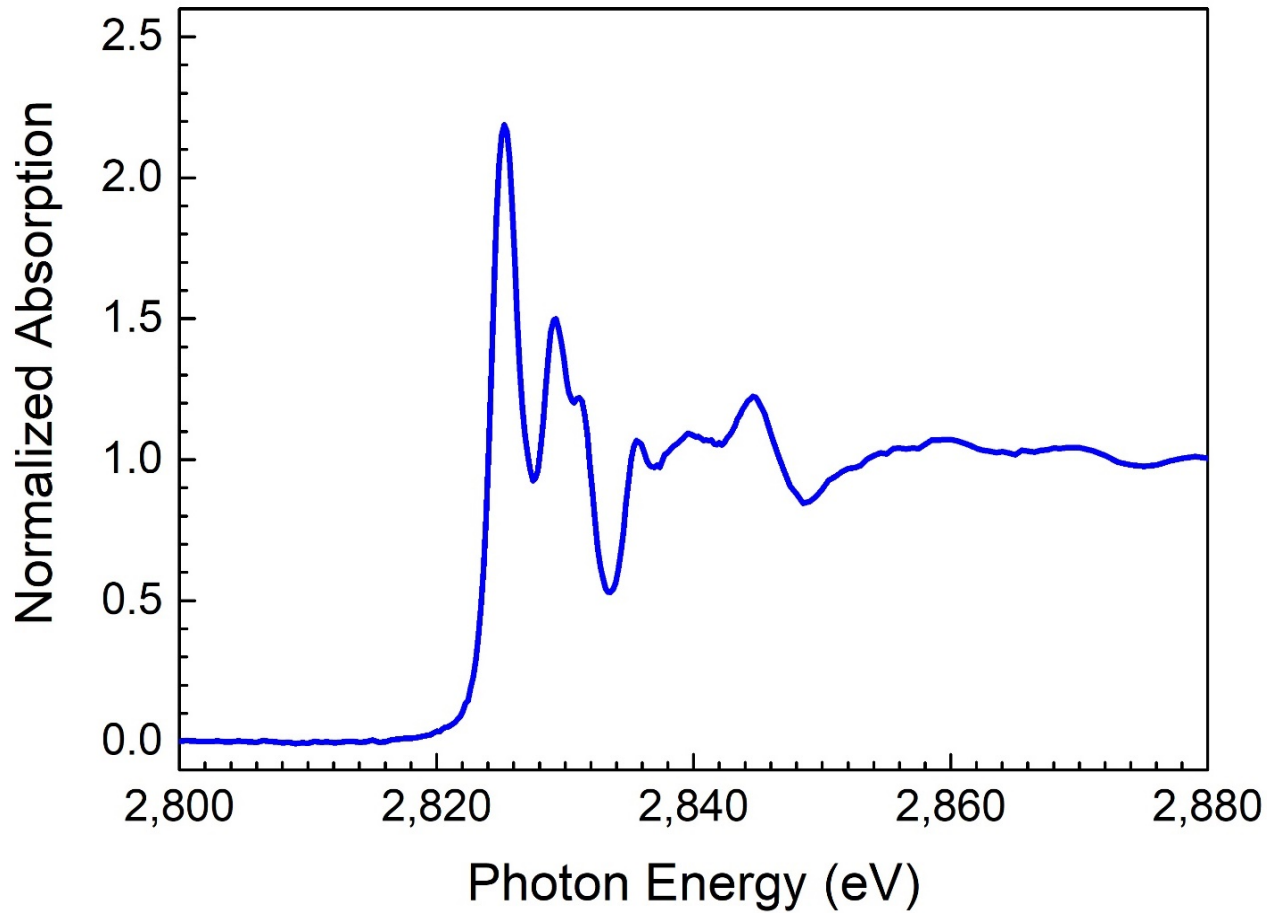
Cl K edge



[Back to the periodic table](#)

Material	NaCl	
Beamline	BL6N1	
Monochromator	Si (111)	
Slits	3 x 10 mm	
Energy Calibration	S K edge of K ₂ SO ₄ (2,481.7 eV)	
Range	2,800 ~ 2,900 eV	
Energy & Step (eV)	2,800	1.00
	2,820	0.20
	2,845	0.50
	2,870	1.00
	2,900	
dwelling time	1 sec.	
measured for	7 min.	
Method	CEY	
detector	I ₀ : Au mesh	
	CEY: He 0.1 MPa	
Date	2018/12/5	
Note	powder on carbon tape	

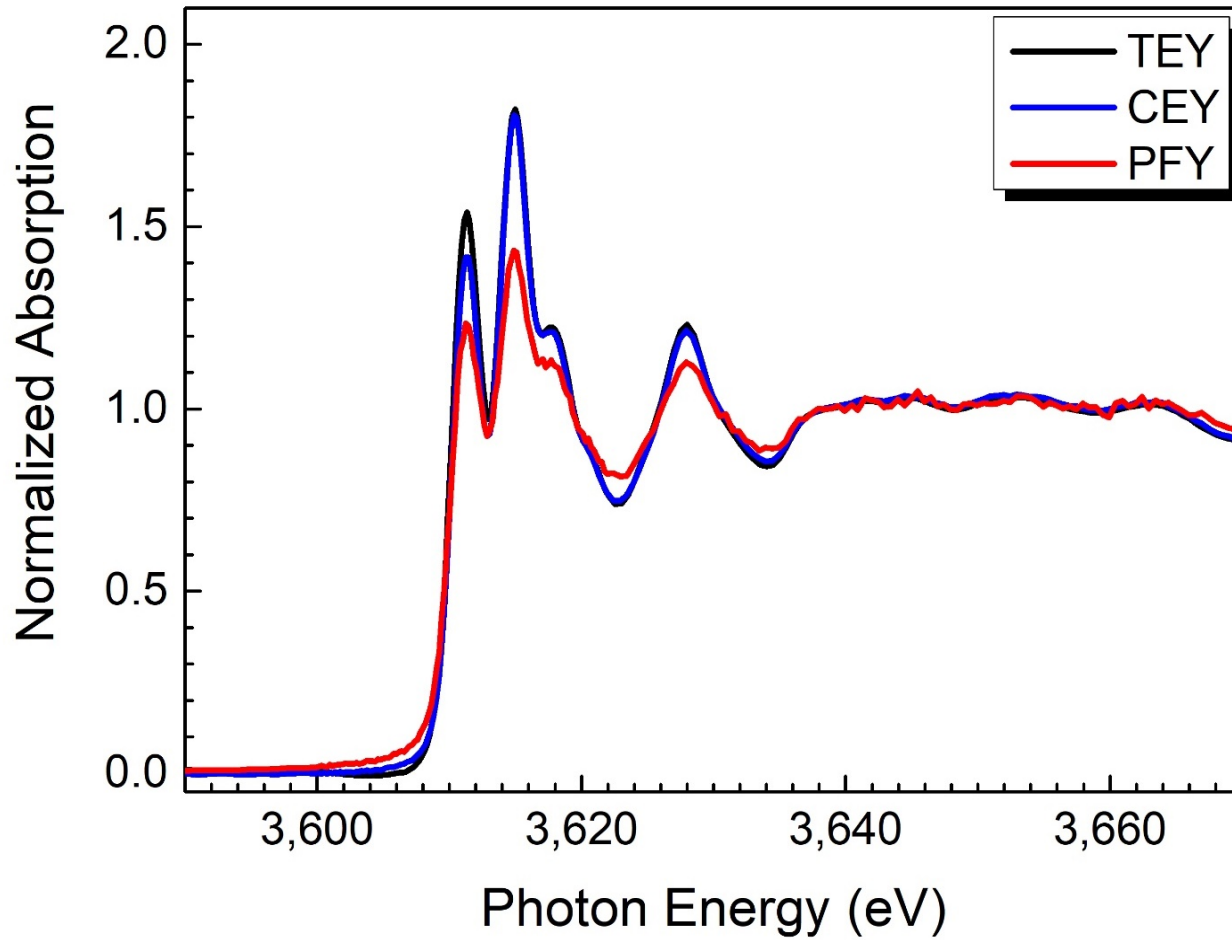
Cl K edge



[Back to the periodic table](#)

Material	KCl	
Beamline	BL6N1	
Monochromator	Si (111)	
Slits	3 x 10 mm	
Energy Calibration	S K edge of K ₂ SO ₄ (2,481.7 eV)	
Range	2,800 ~ 2,900 eV	
Energy & Step (eV)	2,800	1.00
	2,820	0.20
	2,845	0.50
	2,870	1.00
	2,900	
dwelling time	1 sec.	
measured for	7 min.	
Method	CEY	
detector	I ₀ : Au mesh	
	CEY: He 0.1 MPa	
Date	2018/12/5	
Note	powder on carbon tape	

K K edge

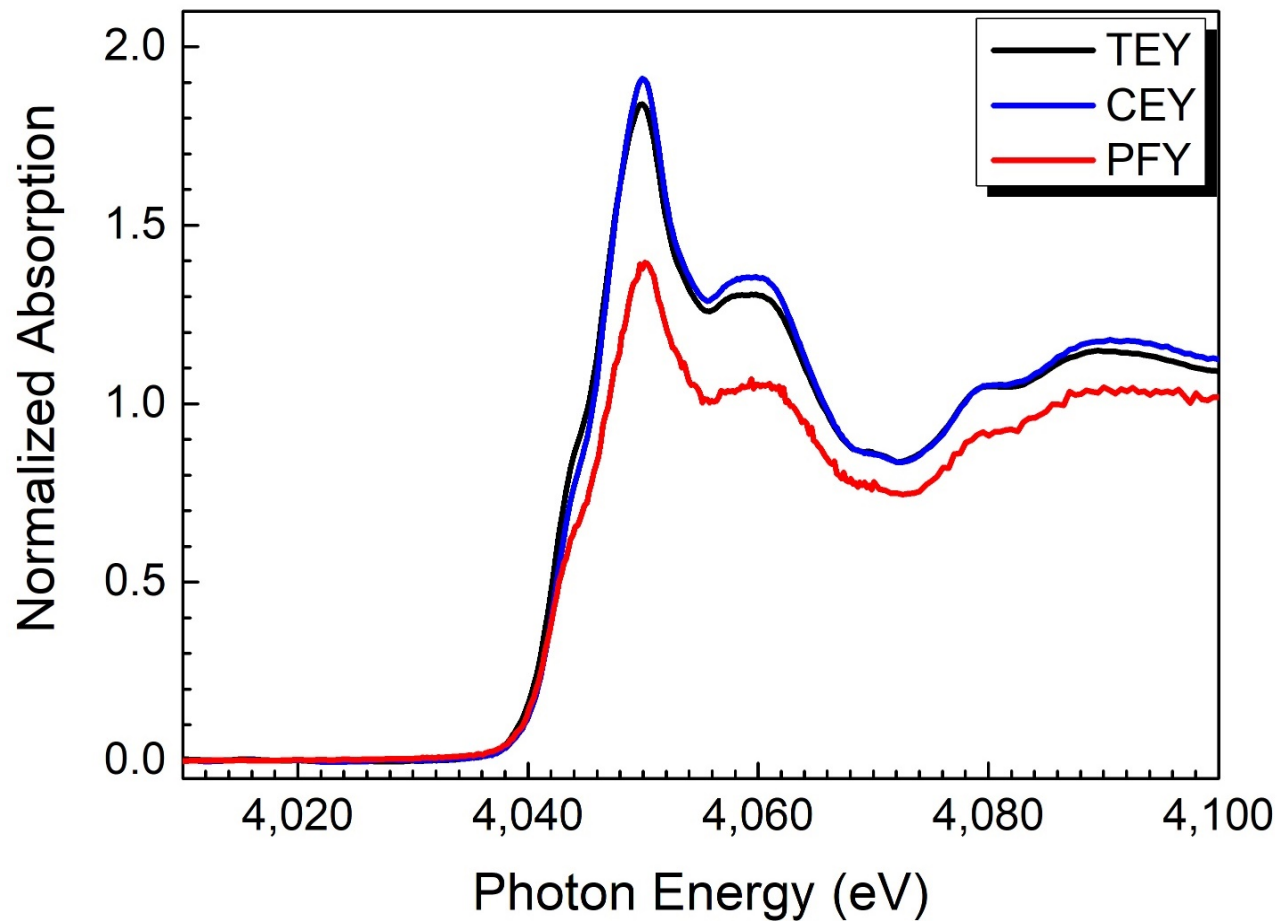


[Back to the periodic table](#)

Material	KCl	
Beamline	BL6N1	
Monochromator	Si (111)	
Slits	3 x 10 mm	
Energy Calibration	S K edge of K ₂ SO ₄ (2,481.7 eV)	
Range	3,580 ~ 3,670 eV	
Energy & Step (eV)	3,580	1.00
	3,600	0.20
	3,622	0.50
	3,670	
dwelling time	1 sec.	
measured for	6 min.	
Method	CEY / PFY / TEY	
detector	I ₀ : Au mesh	
	CEY: He 0.1 Mpa	
	PFY: Vortex -EM	
	TEY: sample current (Vac)	
Date	2018/12/5 (CEY/PEY)	
	2019/2/22 (TEY)	
Note	powder on carbon tape	

Ca K edge

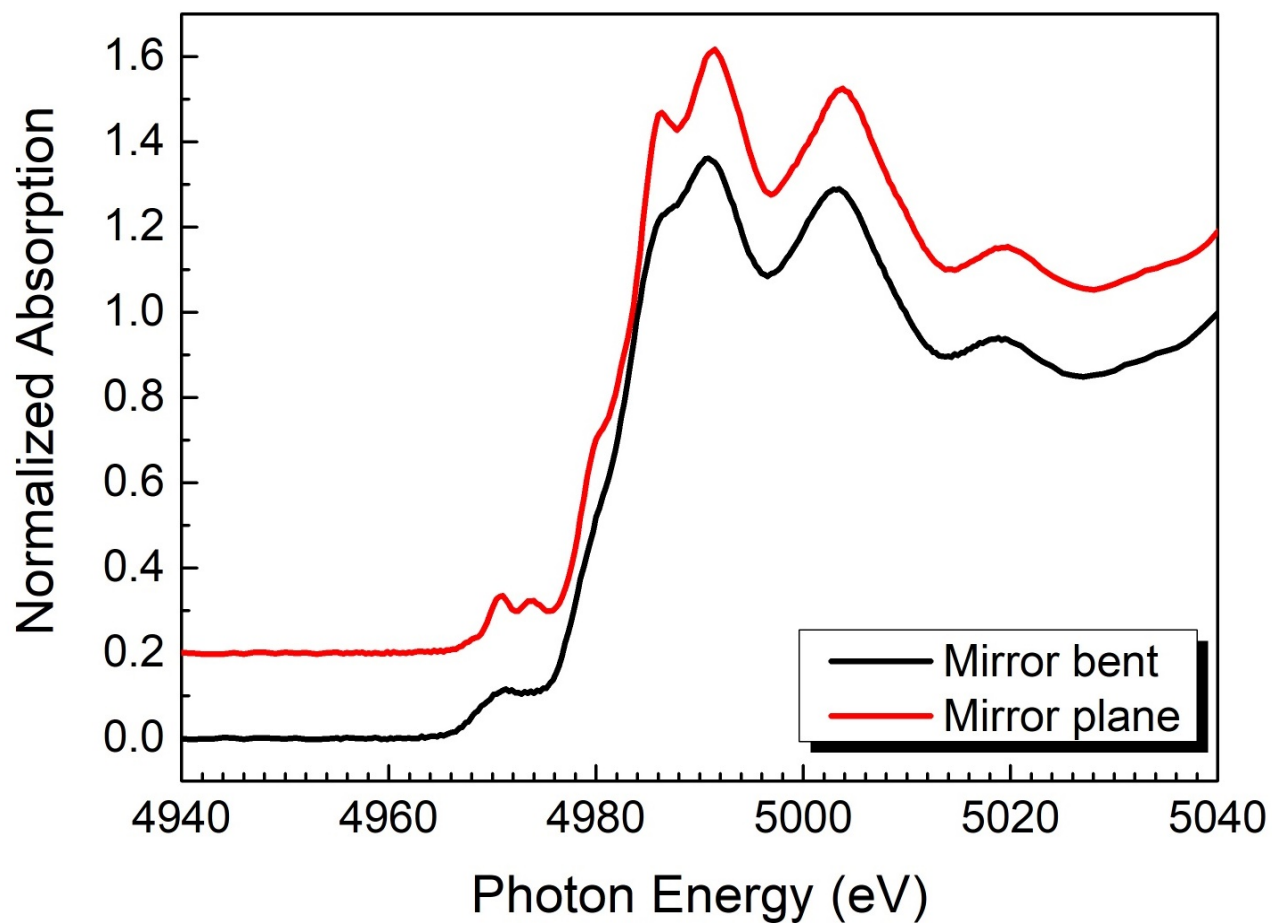
[Back to the periodic table](#)



Material	Ca(OH) ₂	
Beamline	BL6N1	
Monochromator	Si (111)	
Slits	3 x 10 mm	
Energy Calibration	S K edge of K ₂ SO ₄ (2,481.7 eV)	
Range	3,990 ~ 4,150 eV	
Energy & Step (eV)	3,990	1.00
	4,030	0.20
	4,070	0.50
	4,150	
dwelling time	1 sec.	
measured for	11 min.	
Method	CEY / PFY / TEY	
detector	I ₀ : Au mesh	
	CEY: He 0.1 Mpa	
	PFY: Vortex -EM	
	TEY: sample current (Vac)	
Date	2018/12/5 (CEY/PEY)	
	2019/2/22 (TEY)	
Note	powder on carbon tape	

Ti K edge

[Back to the periodic table](#)



Material	TiO ₂ (rutile)	
Beamline	BL6N1	
Monochromator	Si (111)	
Slits	3 x 10 mm	
Energy Calibration	S K edge of K ₂ SO ₄ (2,481.7 eV)	
Range	4,920 ~ 5,130 eV	
Energy & Step (eV)	4,920	1.00
	4,955	0.30
	5,020	1.00
	5,130	
dwelling time	1 sec.	
measured for	10 min.	
Method	CEY	
detector	I ₀ : Au mesh	
	CEY: He 0.1 MPa	
Date	2018/12/5	
Note	powder on carbon tape	