

Experiment 2019-06-02_18h07m18s

TiO₂ rutile analysis position

X = 8,5

Y = 14.8 ^{limits} 13.35 - 16.3

Z = 10.7 10.55 - 10.9

θ = 210

TiO₂ RUTILE 110

TiO₂ RUTILE Cleaning

Name	Eexc	Scans	Start	End	Step	Values	Dwell	Lens	Epass	Acq. Time
Survey	610	1	560	0	0.5		0.1	MA	80	23:07:51
O 1s (3)	630	6	540	526	0.1		0.2	"	20	
Ti 2p(3)	560	4	480	450	"		"	"	20	
C 1s (3)	385	5	290	280	"		"	"	10	
S 2p(3)	265	5	180	154	"		"	"	10	
O 1s(4)	630	5	540	524	"		"	"	10	23:33:01

CIS CLEAN RUTILE da iawn

Name	Scans	Start	End	Ebin	Step	Values	Dwell	Lens	Epass	Acq. Time
BG1	1	39	70	1.4	0.1		4	MA	10	00:08:43
VB4.5	1			4.5			"	"	"	
VB5.6	1			5.6			"	"	"	
VB7.2	1			7.2			"	"	"	
(Background) BG	1			15			"	"	"	02:14:49

rutile clean vb tires and cres

Name	Eexc	Scans	Start	End	Step	Values	Dwell	Lens	Epass	Acq. Time
VB39	39	2	15.5	-5	0.1		0.1	MA	10	02:15:56
⋮ (+1 incr)										
VB70	70	"	"	"	"		"	"	"	
VB100	100	"	15.5	-5	"		"	"	"	
VB280	280	100	15.5 35	-1	"		"	"	"	
⋮ (+1 incr)		"			"		"	"	"	
VB292	292	"	35	-1	"		"	"	"	05:34:59

Day 8

3rd June 2019

Beam Injection ~ 8:00 - to noon

TiO₂ RUTILE cleaning (cont.)

Survey (2)

12:31:14

12:33 Sample moved for MBA dose

		T	P	
12:45	1.5 A	71.0 C	3.8×10^{-7}	
13:49	1.7 A	114.0 C	3.88×10^{-7}	
13:50		116	3.7×10^{-7}	Start
14:20				End <u>30 min</u>

Experiment

2019-06-03_14h12m27s

TiO₂ rutile after 30 min MBA Core levels

Name	Eexc	Scans	Start	End	Step	Values	Dwell	Lens	Epass	Acq. Time	NOTES
Survey	610	1	560	0	0.5		0.1	MA	80	14:27:21	
O 1s	630	6	540	526	0.1		0.2		20		
Ti 2p	560	5	480	450	"		"		20		Epass 10
C 1s	385	5	290	280	"		"		10		"
S 2p	265	5	175	158	"		"		10		
C 1s	385	5	292	280	"		"		20		
S 2p	265	5	175	158	"		"		20	14:51:58	

TiO₂ rutile + MBA 30 min NEXAFES

Name	Scans	Start	End	Ekin	Step	Values	Dwell	Lens	Epass	Acq. Time	
NI	1	275	310	270	0.1		4	MA	50	15:32:31	Stopped at 300.7
NI end	1	298.5	310	270	"		"	"	"		301.6
NI end (2)	1	298.5	310	"	"		"	"	"		306.0
NI end (3)	1	305	310	"	"		"	"	"		
65 Off NI	1	275	310	"	"						306.7
65 Off NI end 1		305	310	"							308.4

Core levels at 65 Off

Survey 17:10:50

S 2p 17:25:05

NE 45 Off NI	1	275	310	270	0.1		4	MA	50	18:09:37	Stopped at 309.7
⊗ NE 45 Off (2)		280	310	"	"		"	"	"	21:39:03	After annealing NEW POSITION Y

TiO₂ rutile + MBA 30 min NEXAFS (after annealing)

	Scans	Start	End	Ekin	Step	Values	Dwell	Lens	Epass	Acq. time
NI	1	275	310	270	0.1		4	MA	50	12:03:23
65 off NI	1	"	"	"	"		"	"	"	12:36:09

TiO₂ rutile transferred for multilayer dose

		P (mbar)	T (°C)	
12:47	3.0 A	1.33×10^{-7}	100	
12:52	2.5 A	1.41×10^{-7}	103.9	<u>Start</u>
13:07		1.49×10^{-7}	112.6	
13:18		1.62×10^{-7}	116.3	
13:31		1.7×10^{-7}	119.0	
14:38		1.7×10^{-7}	125.0	
14:52		1.68×10^{-7}	125.3	<u>End</u> 2h

Back to Analysis

TiO₂ rutile after 2h MBA dose Core Levels

Name	Eexc	Scans	Start	End	Step	Values	Dwell	Lens	Epass	Acq. Time
Survey	610	1	560	0	0.5		0.1	MA	80	14:59:58
O 1s	630	4	540	524	0.1		0.2		20	
Ti 2p	560	4	480	454	"		"		"	
C 1s	385	4	292	280	"		"		"	
S 2p	265	4	175	158	"		"		"	
VB47	47	2	30	-5	"		"		10	
VB40	40	2	25	-5	"		"		"	15:24:02

TiO₂ rutile + MBA 2h NEXAFS

	Scans	Start	End	Ekin	Step	Values	Lens	Dwell	Epass	Acq. Time	stopped
NI	1	280	310	270	0.1		MA	4	50	15:54:30	304.9
NI (2)	1	303	310	"	"						
65 OFF NI	1	280	310	"	"					16:40:32	

17:05 Test: TiO₂ + 2h MBA rinsed with Toluene

to see effect on surface peaks

as toluene will be used in P3HT solution