K3 transitions tables

Stephen Coughlan

1   Tables

We collect together all K3 transitions appearing in the web of canonical 3-folds in codimension ≤ 3. The first two tables list the numerical K3 transitions and non-K3 transitions used to improve Theorem 1.3 to Theorem 1.3′. Since the contracted surface S is not quasismooth in the non-K3 case, we list the singularities occuring on S. The notation $\frac{1}{r}(a,b,c;d)$ describes a hyperquotient singularity. That is, the quotient of a hypersurface $(f = 0)$ in $\mathbb{C}^3$ by $\mathbb{Z}/r$ acting by (a,b,c), where f is in eigenspace d. The next three tables list canonical 3-folds grouped by codimension, and further ordered by decreasing geometric genus p_g. The raw data used to create these tables is available from

www2.iag.uni-hannover.de/∼coughlan/research/k3-transitions

Numerical K3 transitions

Transition	Contracted surface
$46 \to 137$	$S_{10} \subset \mathbb{P}(1,1,3,5)$
$53 \to 78$	$S_{8,12} \subset \mathbb{P}(1,3,4,5,7)$
$64 \to 116$	$S_{11,12} \subset \mathbb{P}(1,4,5,6,7)$
$105 \to 136$	$S_{8,10} \subset \mathbb{P}(1,3,4,5,5)$
$106 \to 80$	$S_{9,10} \subset \mathbb{P}(1,3,4,5,6)$

Non-K3 transitions

Transition	Contracted surface	Singularities
$12 \to 17$	$S_{14} \subset \mathbb{P}(1,3,4,7)$	$\frac{1}{3}(1,1,1;2),\ \frac{1}{4}(1,3,3;2)$
$12 \to 19$	$S_{12} \subset \mathbb{P}(1,3,4,5)$	$\frac{1}{5}(1,3,4;2)$
$64 \to 137$	$S_{14} \subset \mathbb{P}(1,3,4,7)$	$\frac{1}{3}(1,1,1;2),\ \frac{1}{4}(1,3,3;2)$
$77 \to 113$	$S_{12,18} \subset \mathbb{P}(4,5,6,7,9)$	$\frac{1}{5}(1,4,4;3),\ \frac{1}{7}(2,6)$
$109 \to 136$	$S_{8,14} \subset \mathbb{P}(3,4,4,5,7)$	$\frac{1}{3}(1,1,1;2),\ 2 \times \frac{1}{4}(1,3,3;2),\ \frac{1}{5}(2,4)$

ID	Variety	Target	Via K3
1	$X_6 \subset \mathbb{P}^4$	2	$S_5 \subset \mathbb{P}(1,1,1,2)$
		6	$S_4 \subset \mathbb{P}(1,1,1,1)$
2	$X_7 \subset \mathbb{P}^4(1,1,1,1,2)$	3	$S_6 \subset \mathbb{P}(1,1,2,2)$
		4	$S_6 \subset \mathbb{P}(1,1,1,3)$
		7	$S_5 \subset \mathbb{P}(1,1,1,2)$
6	$X_{10} \subset \mathbb{P}^4(1,1,1,1,5)$	–	$1 \to 6$
3	$X_8 \subset \mathbb{P}^4(1,1,1,2,2)$	5	$S_7 \subset \mathbb{P}(1,1,2,3)$
		10	$S_6 \subset \mathbb{P}(1,1,2,2)$
4	$X_9 \subset \mathbb{P}^4(1,1,1,2,3)$	13	$S_7 \subset \mathbb{P}(1,1,2,3)$
		9	$S_8 \subset \mathbb{P}(1,1,2,4)$
7	$X_{12} \subset \mathbb{P}^4(1,1,1,2,6)$	–	$2 \to 7$
		51	$S_{12} \subset \mathbb{P}(1,2,3,6)$
5	$X_{10} \subset \mathbb{P}^4(1,1,2,2,3)$	8	$S_9 \subset \mathbb{P}(1,2,3,3)$
		14	$S_8 \subset \mathbb{P}(1,2,2,3)$
10	$X_{14} \subset \mathbb{P}^4(1,1,2,2,7)$	–	$3 \to 10$
		56	$S_{14} \subset \mathbb{P}(2,2,3,7)$
13	$X_{16} \subset \mathbb{P}^4(1,1,2,3,8)$	–	$4 \to 13$
9	$X_{12} \subset \mathbb{P}^4(1,1,2,3,4)$	12	$S_{11} \subset \mathbb{P}(1,2,3,5)$
		18	$S_{10} \subset \mathbb{P}(1,2,3,4)$
		19	see §3.3
8	$X_{12} \subset \mathbb{P}^4(1,2,2,3,3)$	–	$5 \to 8$
14	$X_{18} \subset \mathbb{P}^4(1,2,2,3,9)$	–	$5 \to 14$
		70	$S_{18} \subset \mathbb{P}(2,3,4,9)$
12	$X_{16} \subset \mathbb{P}^4(1,2,3,4,5)$	16	$S_{15} \subset \mathbb{P}(2,3,5,5)$
		21	$S_{14} \subset \mathbb{P}(2,3,4,5)$
		15	$S_{15} \subset \mathbb{P}(3,3,4,5)$
		75	$S_{16} \subset \mathbb{P}(2,3,4,7)$
18	$X_{22} \subset \mathbb{P}^4(1,2,3,4,11)$	–	$9 \to 18$
		79	$S_{22} \subset \mathbb{P}(2,4,5,11)$
11	$X_{15} \subset \mathbb{P}^4(1,2,3,3,5)$	15	$S_{14} \subset \mathbb{P}(2,3,4,5)$
		17	see §3.3
		63	$S_{15} \subset \mathbb{P}(3,3,4,5)$
		68	$S_{15} \subset \mathbb{P}(2,3,5,5)$

...continued from previous page

ID	Variety	Target	via K3
19	$X_{28} \subset \mathbb{P}^4(1,3,4,5,14)$	–	see §3.3
		82	$S_{28} \subset \mathbb{P}(3,4,7,14)$
17	$X_{21} \subset \mathbb{P}^4(1,3,4,5,7)$	20	$S_{20} \subset \mathbb{P}(3,4,5,8)$
		22	$S_{19} \subset \mathbb{P}(3,4,5,7)$
		23^*	$S_{20} \subset \mathbb{P}(2,5,6,7)$
		80	$S_{21} \subset \mathbb{P}(3,5,6,7)$
16	$X_{20} \subset \mathbb{P}^4(2,3,4,5,5)$	–	$12 \to 16$
21	$X_{30} \subset \mathbb{P}^4(2,3,4,5,15)$	–	$12 \to 21$
15	$X_{18} \subset \mathbb{P}^4(2,3,3,4,5)$	–	$11 \to 15, \ 12 \to 15$
20	$X_{28} \subset \mathbb{P}^4(3,4,5,7,8)$	–	$17 \to 20$
22	$X_{40} \subset \mathbb{P}^4(3,4,5,7,20)$	–	$17 \to 22$
23	$X_{46} \subset \mathbb{P}^4(4,5,6,7,23)$	–	$17 \to 23$

Table 1: Hypersurfaces

ID	Variety	Target	Via K3
24	$X_{3,4} \subset \mathbb{P}(1,1,1,1,1,1)$	1	$S_{2,3} \subset \mathbb{P}(1,1,1,1,1)$
25	$X_{2,5} \subset \mathbb{P}(1,1,1,1,1,1)$	1	$S_4 \subset \mathbb{P}(1,1,1,1)$
26	$X_{4,4} \subset \mathbb{P}(1,1,1,1,1,2)$	2	$S_{3,3} \subset \mathbb{P}(1,1,1,1,2)$
27	$X_{3,5} \subset \mathbb{P}(1,1,1,1,1,2)$	2	$S_4 \subset \mathbb{P}(1,1,1,1)$
		35	$S_{3,3} \subset \mathbb{P}(1,1,1,1,2)$
32	$X_{2,8} \subset \mathbb{P}(1,1,1,1,1,4)$	35	$S_8 \subset \mathbb{P}(1,1,2,4)$
28	$X_{4,5} \subset \mathbb{P}(1,1,1,1,2,2)$	3	$S_{3,4} \subset \mathbb{P}(1,1,1,2,2)$
29	$X_{3,6} \subset \mathbb{P}(1,1,1,1,2,2)$	3	$S_5 \subset \mathbb{P}(1,1,1,2)$
		41	$S_{3,4} \subset \mathbb{P}(1,1,1,2,2)$
31	$X_{4,6} \subset \mathbb{P}(1,1,1,1,2,3)$	4	$S_5 \subset \mathbb{P}(1,1,1,2)$
35	$X_{3,8} \subset \mathbb{P}(1,1,1,1,2,4)$	–	$27 \rightarrow 35$
30	$X_{4,6} \subset \mathbb{P}(1,1,1,2,2,2)$	38	$S_{4,5} \subset \mathbb{P}(1,1,2,2,3)$
33	$X_{5,6} \subset \mathbb{P}(1,1,1,2,2,3)$	5	$S_{4,5} \subset \mathbb{P}(1,1,2,2,3)$
		42	$S_6 \subset \mathbb{P}(1,1,2,2)$
34	$X_{4,7} \subset \mathbb{P}(1,1,1,2,2,3)$	5	$S_6 \subset \mathbb{P}(1,1,2,2)$
		38	$S_{4,6} \subset \mathbb{P}(1,2,2,2,3)$
37	$X_{6,6} \subset \mathbb{P}(1,1,1,2,3,3)$	39	$S_{5,6} \subset \mathbb{P}(1,2,2,3,3)$
		46	$S_{5,6} \subset \mathbb{P}(1,1,2,3,4)$
41	$X_{3,10} \subset \mathbb{P}(1,1,1,2,2,5)$	–	$29 \rightarrow 41$
44	$X_{4,10} \subset \mathbb{P}(1,1,1,2,3,5)$	48	$S_{10} \subset \mathbb{P}(1,1,3,5)$
36	$X_{6,6} \subset \mathbb{P}(1,1,2,2,2,3)$	43	$S_{5,6} \subset \mathbb{P}(1,2,2,3,3)$
		92	$S_{6,6} \subset \mathbb{P}(2,2,2,3,3)$
38	$X_{4,8} \subset \mathbb{P}(1,1,2,2,2,3)$	–	$30 \rightarrow 38, 34 \rightarrow 38$
39	$X_{6,7} \subset \mathbb{P}(1,1,2,2,3,3)$	8	$S_{5,6} \subset \mathbb{P}(1,2,2,3,3)$
		47	$S_{6,6} \subset \mathbb{P}(1,2,3,3,3)$
40	$X_{4,9} \subset \mathbb{P}(1,1,2,2,3,3)$	8	$S_8 \subset \mathbb{P}(1,2,2,3)$
42	$X_{6,8} \subset \mathbb{P}(1,1,2,2,3,4)$	–	$33 \rightarrow 42$
45	$X_{4,10} \subset \mathbb{P}(1,1,2,2,2,5)$	50	$S_{10} \subset \mathbb{P}(1,2,2,5)$
		56	$S_8 \subset \mathbb{P}(1,2,2,3)$
46	$X_{6,9} \subset \mathbb{P}(1,1,2,3,3,4)$	–	$37 \rightarrow 46$
		67	$S_{6,7} \subset \mathbb{P}(1,2,3,3,4)$
		$137^{\dagger}$	$S_{10} \subset \mathbb{P}(1,1,3,5)$

continued on following page...

ID	Variety	Target	via K3
48	$X_{6,10} \subset \mathbb{P}(1,1,2,3,3,5)$	11	$S_9 \subset \mathbb{P}(1,2,3,3)$
		71	$S_{6,8} \subset \mathbb{P}(1,2,3,3,5)$
51	$X_{4,12} \subset \mathbb{P}(1,1,2,2,3,6)$	–	$7 \to 51$
43	$X_{6,8} \subset \mathbb{P}(1,2,2,2,3,3)$	61	$S_{6,6} \subset \mathbb{P}(2,2,2,3,3)$
		101	$S_{6,8} \subset \mathbb{P}(2,2,3,3,4)$
47	$X_{6,9} \subset \mathbb{P}(1,2,2,3,3,3)$	–	$39 \to 47$
		55	$S_{6,8} \subset \mathbb{P}(2,2,3,3,4)$
49	$X_{6,10} \subset \mathbb{P}(1,2,2,3,3,4)$	70	$S_{6,8} \subset \mathbb{P}(2,2,3,3,4)$
50	$X_{6,10} \subset \mathbb{P}(1,2,2,2,3,5)$	–	$45 \to 50$
		104	$S_{6,10} \subset \mathbb{P}(2,2,3,4,5)$
52	$X_{8,10} \subset \mathbb{P}(1,2,2,3,4,5)$	59	$S_{8,9} \subset \mathbb{P}(2,3,3,4,5)$
		69	$S_{6,10} \subset \mathbb{P}(2,2,3,4,5)$
		107	$S_{8,10} \subset \mathbb{P}(2,3,4,4,5)$
53	$X_{6,12} \subset \mathbb{P}(1,2,3,3,4,4)$	65	$S_{12} \subset \mathbb{P}(2,3,3,4)$
		72^*	$S_{12} \subset \mathbb{P}(2,2,3,5)$
		$78^\dagger$	$S_{8,12} \subset \mathbb{P}(1,3,4,5,7)$
54	$X_{6,12} \subset \mathbb{P}(1,2,2,3,4,5)$	59	$S_{12} \subset \mathbb{P}(2,3,3,4)$
		66	$S_{12} \subset \mathbb{P}(2,2,3,5)$
56	$X_{4,14} \subset \mathbb{P}(1,2,2,2,3,7)$	–	$10 \to 56, 45 \to 56$
		61	$S_{14} \subset \mathbb{P}(2,2,3,7)$
57	$X_{9,10} \subset \mathbb{P}(1,2,3,3,4,5)$	15	$S_{8,9} \subset \mathbb{P}(2,3,3,4,5)$
		65	$S_{8,10} \subset \mathbb{P}(2,3,4,4,5)$
		108	$S_{9,10} \subset \mathbb{P}(2,3,4,5,5)$
58	$X_{6,13} \subset \mathbb{P}(1,2,3,3,4,5)$	15	$S_{12} \subset \mathbb{P}(2,3,3,4)$
60	$X_{8,12} \subset \mathbb{P}(1,2,3,4,4,5)$	79	$S_{8,10} \subset \mathbb{P}(2,3,4,4,5)$
62	$X_{6,14} \subset \mathbb{P}(1,2,2,3,4,7)$	69	$S_{14} \subset \mathbb{P}(2,2,3,7)$
		70	$S_{12} \subset \mathbb{P}(2,3,3,4)$
64	$X_{10,12} \subset \mathbb{P}(1,2,3,4,5,6)$	75	$S_{9,12} \subset \mathbb{P}(2,3,4,5,7)$
		76	$S_{10,11} \subset \mathbb{P}(2,3,4,5,7)$
		77	$S_{8,12} \subset \mathbb{P}(2,3,4,5,6)$
		109	$S_{10,12} \subset \mathbb{P}(2,4,5,5,6)$
		110	$S_{10,12} \subset \mathbb{P}(3,3,4,5,7)$

ID	Variety	Target	via K3
		111	$S_{10,12} \subset \mathbb{P}(2,3,5,5,7)$
		112	$S_{10,12} \subset \mathbb{P}(2,3,4,5,8)$
		116†	$S_{11,12} \subset \mathbb{P}(1,4,5,6,7)$
67	$X_{6,16} \subset \mathbb{P}(1,2,3,3,4,8)$	–	$46 \to 67$
71	$X_{6,18} \subset \mathbb{P}(1,2,3,3,5,9)$	–	$48 \to 71$
73	$X_{6,20} \subset \mathbb{P}(1,2,3,4,5,10)$	21*	$S_{18} \subset \mathbb{P}(2,3,4,9)$
74	$X_{12,15} \subset \mathbb{P}(1,3,4,5,6,7)$	78	$S_{12,14} \subset \mathbb{P}(4,4,5,6,7)$
		81	$S_{12,14} \subset \mathbb{P}(3,4,5,7,7)$
		82	$S_{12,13} \subset \mathbb{P}(3,4,5,6,7)$
		114	$S_{12,15} \subset \mathbb{P}(3,4,5,7,8)$
		115	$S_{12,15} \subset \mathbb{P}(3,4,5,6,9)$
55	$X_{6,12} \subset \mathbb{P}(2,2,3,3,3,4)$	–	$47 \to 55$
59	$X_{8,12} \subset \mathbb{P}(2,2,3,3,4,5)$	–	$52 \to 59, \; 54 \to 59$
61	$X_{6,14} \subset \mathbb{P}(2,2,2,3,3,7)$	–	$43 \to 61, \; 56 \to 61$
63	$X_{6,15} \subset \mathbb{P}(2,3,3,3,4,5)$	–	$11 \to 63$
65	$X_{10,12} \subset \mathbb{P}(2,3,3,4,4,5)$	–	$53 \to 65, \; 57 \to 65$
66	$X_{10,12} \subset \mathbb{P}(2,2,3,4,5,5)$	–	$54 \to 66$
68	$X_{8,15} \subset \mathbb{P}(2,3,3,4,5,5)$	–	$11 \to 68$
69	$X_{10,14} \subset \mathbb{P}(2,2,3,4,5,7)$	–	$62 \to 69, \; 52 \to 69$
70	$X_{6,18} \subset \mathbb{P}(2,2,3,3,4,9)$	–	$14 \to 70, \; 49 \to 70, \; 62 \to 70$
72	$X_{12,14} \subset \mathbb{P}(2,3,4,4,5,7)$	–	$53 \to 72$
75	$X_{12,16} \subset \mathbb{P}(2,3,4,5,6,7)$	–	$12 \to 75, \; 64 \to 75$
76	$X_{10,18} \subset \mathbb{P}(2,3,4,5,6,7)$	–	$64 \to 76$
77	$X_{12,18} \subset \mathbb{P}(2,3,4,5,6,9)$	–	$64 \to 77$
78	$X_{12,18} \subset \mathbb{P}(3,4,4,5,6,7)$	–	$74 \to 78, \; 53 \to 78$
79	$X_{8,22} \subset \mathbb{P}(2,3,4,4,5,11)$	–	$18 \to 79$
80	$X_{10,21} \subset \mathbb{P}(3,4,5,5,6,7)$	–	$17 \to 80$
81	$X_{12,21} \subset \mathbb{P}(3,4,5,6,7,7)$	–	$74 \to 81$
82	$X_{12,28} \subset \mathbb{P}(3,4,5,6,7,14)$	–	$19 \to 82, \; 74 \to 82$

Table 2: Codimension 2

ID	Variety	Target	via K3
117	$X_{2,3,3} \subset \mathbb{P}(1,1,1,1,1,1,1)$	24	$S_{2,3} \subset \mathbb{P}(1,1,1,1,1)$
118	$X_{2,2,4} \subset \mathbb{P}(1,1,1,1,1,1,1)$	24	$S_4 \subset \mathbb{P}(1,1,1,1)$
		84	$S_{2,2,2} \subset \mathbb{P}(1,1,1,1,1,1)$
120	$X_{3,3,3,3,4} \subset \mathbb{P}(1,1,1,1,1,1,1)$	24	$S_{2,2,2} \subset \mathbb{P}(1,1,1,1,1,1)$
84	$X_{2,2,6} \subset \mathbb{P}(1,1,1,1,1,1,3)$	–	$118 \to 84$
119	$X_{3,3,3} \subset \mathbb{P}(1,1,1,1,1,1,2)$	27	$S_{2,3} \subset \mathbb{P}(1,1,1,1,1)$
121	$X_{3,3,4,4,4} \subset \mathbb{P}(1,1,1,1,1,1,2)$	26	$S_{2,3} \subset \mathbb{P}(1,1,1,1,1)$
83	$X_{3,3,4} \subset \mathbb{P}(1,1,1,1,1,2,2)$	28	$S_4 \subset \mathbb{P}(1,1,1,1)$
122	$X_{3,4,4,4,5} \subset \mathbb{P}(1,1,1,1,1,2,2)$	28	$S_{3,3} \subset \mathbb{P}(1,1,1,1,2)$
123	$X_{4,4,4,4,4} \subset \mathbb{P}(1,1,1,1,1,2,2)$	28	$S_{3,3,3,3,4} \subset \mathbb{P}(1,1,1,1,2,2)$
85	$X_{3,4,4} \subset \mathbb{P}(1,1,1,1,2,2,2)$	30	$S_{3,4} \subset \mathbb{P}(1,1,1,2,2)$
		87	$S_{4,4} \subset \mathbb{P}(1,1,2,2,2)$
86	$X_{4,4,4} \subset \mathbb{P}(1,1,1,1,2,2,3)$	34	$S_{3,4} \subset \mathbb{P}(1,1,1,2,2)$
124	$X_{4,4,4,5,5} \subset \mathbb{P}(1,1,1,1,2,2,2)$	30	$S_{3,3,4,4,4} \subset \mathbb{P}(1,1,1,2,2,2)$
125	$X_{4,4,5,5,6} \subset \mathbb{P}(1,1,1,1,2,2,3)$	33	$S_{3,4} \subset \mathbb{P}(1,1,1,2,2)$
87	$X_{4,4,4} \subset \mathbb{P}(1,1,1,2,2,2,2)$	–	$85 \to 87$
		90	$S_{4,4} \subset \mathbb{P}(1,1,2,2,2)$
88	$X_{4,4,5} \subset \mathbb{P}(1,1,1,2,2,2,3)$	38	$S_{4,4} \subset \mathbb{P}(1,1,2,2,2)$
89	$X_{4,4,6} \subset \mathbb{P}(1,1,1,2,2,3,3)$	39	$S_6 \subset \mathbb{P}(1,1,2,2)$
126	$X_{4,5,5,6,6} \subset \mathbb{P}(1,1,1,2,2,2,3)$	36	$S_{4,4} \subset \mathbb{P}(1,1,2,2,2)$
127	$X_{4,5,6,6,7} \subset \mathbb{P}(1,1,1,2,2,3,3)$	39	$S_{4,5} \subset \mathbb{P}(1,1,2,2,3)$
128	$X_{5,5,6,6,6} \subset \mathbb{P}(1,1,1,2,2,3,3)$	39	$S_{4,4,5,5,6} \subset \mathbb{P}(1,1,2,2,3,3)$
90	$X_{4,4,6} \subset \mathbb{P}(1,1,2,2,2,2,3)$	–	$87 \to 90$
91	$X_{4,5,6} \subset \mathbb{P}(1,1,2,2,2,3,3)$	43	$S_{4,6} \subset \mathbb{P}(1,2,2,2,3)$
		95	$S_{5,6} \subset \mathbb{P}(1,2,2,3,3)$
93	$X_{4,6,6} \subset \mathbb{P}(1,1,2,2,3,3,3)$	47	$S_{5,6} \subset \mathbb{P}(1,2,2,3,3)$
		98	$S_{6,6} \subset \mathbb{P}(1,2,3,3,3)$
		99	$S_{6,6} \subset \mathbb{P}(1,2,2,3,4)$
94	$X_{5,6,6} \subset \mathbb{P}(1,1,2,2,3,3,4)$	49	$S_{5,6} \subset \mathbb{P}(1,2,2,3,3)$
102	$X_{6,6,8} \subset \mathbb{P}(1,1,2,3,3,4,5)$	58	$S_{6,7} \subset \mathbb{P}(1,2,3,3,4)$
129	$X_{5,6,6,6,7} \subset \mathbb{P}(1,1,2,2,2,3,3)$	43	$S_{4,5,5,6,6} \subset \mathbb{P}(1,2,2,2,3,3)$
130	$X_{6,6,6,7,7} \subset \mathbb{P}(1,1,2,2,3,3,3)$	47	$S_{5,5,6,6,6} \subset \mathbb{P}(1,2,2,3,3,3)$
131	$X_{6,6,7,7,8} \subset \mathbb{P}(1,1,2,2,3,3,4)$	49	$S_{5,6,6,6,7} \subset \mathbb{P}(1,2,2,3,3,4)$
132	$X_{6,7,8} \subset \mathbb{P}(1,1,2,3,3,4,5)$	57	$S_{6,7} \subset \mathbb{P}(1,2,3,3,4)$

...continued from previous page

ID	Variety	Target	via K3
92	$X_{4,6,6} \subset \mathbb{P}(1,2,2,2,2,3,3)$	–	$36 \to 92$
		97	$S_{6,6} \subset \mathbb{P}(2,2,2,3,3)$
95	$X_{5,6,6} \subset \mathbb{P}(1,2,2,2,3,3,3)$	–	$91 \to 95$
96	$X_{6,6,6} \subset \mathbb{P}(1,2,2,2,3,3,4)$	104	$S_{6,6} \subset \mathbb{P}(2,2,2,3,3)$
98	$X_{6,6,6} \subset \mathbb{P}(1,2,2,3,3,3,3)$	–	$93 \to 98$
99	$X_{6,6,7} \subset \mathbb{P}(1,2,2,3,3,3,4)$	–	$93 \to 99$
100	$X_{6,6,8} \subset \mathbb{P}(1,2,2,3,3,4,4)$	107	$S_{6,8} \subset \mathbb{P}(2,2,3,3,4)$
103	$X_{6,7,8} \subset \mathbb{P}(1,2,2,3,3,4,5)$	59	$S_{6,8} \subset \mathbb{P}(2,2,3,3,4)$
105	$X_{6,8,9} \subset \mathbb{P}(1,2,3,3,4,4,5)$	108	$S_{8,9} \subset \mathbb{P}(2,3,3,4,5)$
		$136^\dagger$	$S_{8,10} \subset \mathbb{P}(1,3,4,5,5)$
106	$X_{6,8,10} \subset \mathbb{P}(1,2,3,3,4,5,5)$	68	$S_{8,9} \subset \mathbb{P}(2,3,3,4,5)$
		$80^\dagger$	$S_{9,10} \subset \mathbb{P}(1,3,4,5,6)$
133	$X_{7,8,8,9,10} \subset \mathbb{P}(1,2,2,3,3,4,5)$	59	$S_{6,7,8,8,9} \subset \mathbb{P}(2,2,3,3,4,5)$
134	$X_{8,9,9,10,10} \subset \mathbb{P}(1,2,3,3,4,4,5)$	65	$S_{7,8,8,9,10} \subset \mathbb{P}(2,3,3,4,4,5)$
135	$X_{8,9,10,10,11} \subset \mathbb{P}(1,2,3,3,4,5,5)$	68	$S_{8,8,9,9,10} \subset \mathbb{P}(2,3,3,4,5,5)$
137	$X_{12,13,14,15,16} \subset \mathbb{P}(1,3,4,5,6,7,8)$	–	$46 \to 137$
97	$X_{6,6,6} \subset \mathbb{P}(2,2,2,2,3,3,3)$	–	$92 \to 97$
101	$X_{6,6,8} \subset \mathbb{P}(2,2,2,3,3,3,4)$	–	$43 \to 101$
104	$X_{6,6,10} \subset \mathbb{P}(2,2,2,3,3,4,5)$	–	$50 \to 104$
107	$X_{6,8,10} \subset \mathbb{P}(2,2,3,3,4,4,5)$	–	$52 \to 107$
108	$X_{8,9,10} \subset \mathbb{P}(2,3,3,4,4,5,5)$	–	$57 \to 108$
109	$X_{8,10,12} \subset \mathbb{P}(2,3,4,4,5,5,6)$	–	$64 \to 109$
110	$X_{9,10,12} \subset \mathbb{P}(2,3,3,4,5,6,7)$	–	$64 \to 110$
111	$X_{10,11,12} \subset \mathbb{P}(2,3,4,5,5,6,7)$	–	$64 \to 111$
112	$X_{10,12,14} \subset \mathbb{P}(2,3,4,5,6,7,8)$	–	$64 \to 112$
113	$X_{10,12,18} \subset \mathbb{P}(3,4,5,5,6,7,9)$	–	No numerical links
114	$X_{12,14,15} \subset \mathbb{P}(3,4,5,6,7,7,8)$	–	$74 \to 114$
115	$X_{12,15,16} \subset \mathbb{P}(3,4,5,6,7,8,9)$	–	$74 \to 115$
116	$X_{12,16,18} \subset \mathbb{P}(4,5,6,6,7,8,9)$	–	$64 \to 116$
136	$X_{12,13,14,15,16} \subset \mathbb{P}(3,4,4,5,5,6,7)$	–	$105 \to 136$

Table 3: Codimension 3

8