IPhT

Gauge Groups K3

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Abstract: Gauge groups of elliptically fibered K3s constructed from reflexive polyhedras from one complex parameter (Picard 19) to five complex parameters (Picard 15) or up to 10 moduli for K3s with only two fibrations. $M\#$ means the polytope $ReflexivePolyhedras(3, \#)$ in SageMath. Additional contributions of $U(1)$ factors should be considered so that the gauge group is of rank $p-2$ where p is the Picard number.

M0	$\frac{SO(16)\times SO(16)}{Z_2}$	$\frac{SU(12)\times E_6}{Z_3}$	$E_8 \times E_8$	$\frac{E_7\times E_7\times SU(4)}{Z_2}$
M2	$\frac{E_7\times SO(20)}{Z_2}$	$\frac{\times SU(18)}{Z_3}$	$E_8 \times E_8 \times SU(2)$	

Figure 1: Gauge groups Picard 19 (i.e. one moduli)

M3	$SO(14) \times E_7$	$SO(14) \times SU(9)$	$\frac{SU(12)\times SO(8)}{Z_2}$	$\frac{E_6\times E_6\times SU(3)SU(3)}{Z_3}$	$E_8 \times E_8 \times Z_3$		
M4	$E_8 \times E_8 \times Z_3$	$E_6 \times SO(14) \times SU(3)$	$E_7 \times E_7$	$\frac{SU(10)\times SO(12)}{Z_2}$	$\frac{SU(9)\times SU(9)}{Z_3}$		
M5	$E_7 \times E_7 \times SU(2)$	$SU(10) \times E_6$	$\frac{SO(16)\times SO(12)\times SU(2)}{Z_2}$	$\frac{E_7\times SO(12)\times SU(4)}{Z_2}$	$E_8 \times E_7$	$\frac{SU(6)\times SU(12)}{Z_3}$	
M6	$E_6 \times E_7 \times SU(3)$	$E_7 \times E_8$	$E_8 \times E_8 \times Z_3$	$SO(14) \times SO(14)$	$SO(10) \times SU(11)$	$\frac{E_6\times SU(9)\times SU(3)}{Z_3}$	$\frac{SU(8)\times SO(16)}{Z_2}$
M7	$E_7 \times E_8$	$\frac{SU(10)\times E_7}{Z_2}$	$\frac{SU(3)\times SU(15)}{Z_3}$	$E_6 \times SO(18)$			
M10	$\frac{SO(16)\times SO(16)}{Z_2}$	$\frac{E_7\times E_7\times SU(2)SU(2)}{Z_2}$	$E_8 \times E_8 \times Z_4$	$\frac{SU(16)}{Z_2}$			
M11	$\frac{SO(16)\times E_7\times SU(2)}{Z_2}$	$E_8 \times E_8 \times Z_4$	$E_8 \times E_7 \times SU(2)$	$\frac{SO(12)\times SO(20)}{Z_2}$	$SU(16)$		
M16	$SO(18) \times E_6$	$\frac{SU(15)\times SU(3)}{Z_3}$	$E_7 \times E_8$	$\frac{SU(10)\times E_7}{Z_2}$			
M88	$E_8 \times E_8$	$\frac{SO(32)}{Z_2}$					

Figure 2: Gauge groups Picard 18 (i.e. two moduli)

Contents

M14	$\frac{E_7\times SU(8)\times SU(2)}{Z_2}$	$SO(16)\times E_6$	$E_8\times E_7\times Z_4$	$SU(14)\times SU(2)$	$E_8\times E_6$	$SO(10)\times SO(18)$				
M15	$E_7\times E_6\times SU(2)$	$SO(14)\times SO(14)$	$\frac{SO(16)\times SU(8)}{Z_2}$	$E_7\times E_8\times Z_4$	$\frac{SU(14)\times SU(2)}{Z_2}$					
M20	$E_7\times E_8\times Z_3$	$E_6\times SO(14)$	$E_6\times SO(10)\times SU(3)SU(2)$	$SU(6)\times SO(14)\times SU(3)$	$E_7\times SO(12)$	$SO(12)\times SU(8)$	$\frac{SU(10)\times SO(8)\times SU(2)}{Z_2}$	$SU(9)\times SU(7)$		
M21	$E_7\times SO(12)\times SU(2)$	$SU(6)\times SU(10)$	$E_7\times E_7$	$\frac{SO(12)\times SO(12)\times SU(2)SU(2)}{Z_2}$	$E_7\times E_7\times Z_2$	$SU(8)\times E_6$	$\frac{SO(12)\times SO(12)\times SU(4)}{Z_2}$	$\frac{SO(16)\times SO(8)\times SU(2)SU(2)}{Z_2}$		
M22	$SO(10)\times SU(9)\times SU(2)$	$SO(14)\times SU(7)$	$E_8\times E_7\times Z_3$	$SO(14)\times SO(12)$	$E_6\times E_6\times SU(3)$	$SU(10)\times SO(8)$	$E_7\times SO(10)\times SU(2)$	$\frac{E_6\times SU(6)\times SU(3)SU(3)}{Z_3}$		
M23	$\frac{SU(10)\times SO(12)}{Z_2}$	$E_6\times SO(14)\times SU(2)$	$E_7\times SU(8)$	$SO(12)\times E_8$	$E_7\times E_7$	$SU(3)\times SU(13)$	$SO(18)\times SU(6)$			
M24	$E_7\times E_7$	$SO(10)\times SU(8)\times SU(3)$	$E_6\times E_6\times SU(2)$	$SO(12)\times SO(12)$	$\frac{SU(8)\times SU(8)}{Z_2}$					
M25	$SO(10)\times SO(14)\times SU(2)$	$SO(10)\times SU(9)$	$E_6\times E_7$	$SO(12)\times E_6\times SU(3)$	$E_7\times E_7$	$E_8\times E_7\times Z_3$	$SU(7)\times E_6\times SU(3)$	$\frac{SU(6)\times SU(9)\times SU(3)}{Z_3}$	$\frac{SU(8)\times SO(12)\times SU(2)}{Z_2}$	
M26	$SU(9)\times E_6$	$E_6\times SU(9)$	$E_7\times E_7$	$SO(10)\times SO(16)$	$E_6\times E_8$	$\frac{SU(6)\times E_7\times SU(4)}{Z_2}$	$\frac{SU(3)\times SU(12)\times SU(3)}{Z_3}$			
M27	$SU(8)\times SO(14)$	$\frac{SU(4)\times SU(12)}{Z_2}$	$E_6\times E_6\times SU(2)SU(2)$	$E_7\times SO(12)$						
M28	$E_6\times E_7\times SU(2)$	$SU(10)\times SO(10)$	$SO(10)\times E_7\times SU(3)$	$SU(5)\times SU(11)$	$SO(14)\times SO(12)$	$E_6\times E_8$	$E_6\times SU(8)\times SU(2)$	$\frac{SU(6)\times SO(16)\times SU(2)}{Z_2}$		
M29	$E_7\times E_6$	$E_7\times E_7\times Z_2$	$\frac{SO(12)\times SU(8)\times SU(2)}{Z_2}$	$\frac{SU(6)\times SU(10)}{Z_2}$	$SO(12)\times E_6\times SU(2)$	$SO(10)\times SO(14)\times SU(3)$	$SU(8)\times SU(8)$			
M30	$E_6\times E_6$	$E_7\times E_7\times Z_2$	$\frac{SO(12)\times SO(12)\times SU(2)SU(2)}{Z_2}$	$\frac{SU(8)\times SU(8)}{Z_2}$						
M38	$E_7\times E_7$	$SO(14)\times E_8$	$\frac{SU(4)\times SO(24)}{Z_2}$	$\frac{\times SU(16)}{Z_2}$						
M41	$\frac{SO(12)\times SO(16)\times SU(2)}{Z_2}$	$E_7\times E_8\times Z_4$	$\frac{SO(12)\times E_7\times SU(2)SU(2)}{Z_2}$	$E_7\times E_7\times SU(2)$	$\times SU(14)$					
M47	$SO(18)\times SO(10)$	$E_8\times E_7\times Z_4$	$SU(14)\times SU(2)$	$E_8\times E_6$	$SO(16)\times E_6$	$\frac{SU(8)\times E_7\times SU(2)}{Z_2}$				
M48	$E_7\times E_7$	$SO(14)\times E_6\times SU(2)$	$\times SU(13)\times SU(3)$	$\frac{SU(10)\times SO(12)}{Z_2}$						
M49	$E_7\times E_6\times SU(2)$	$\frac{SU(8)\times SO(16)}{Z_2}$	$E_7\times E_8\times Z_4$	$SO(14)\times SO(14)$	$\frac{SU(14)\times SU(2)}{Z_2}$					
M50	$SU(15)$	$\frac{SU(6)\times SO(20)}{Z_2}$	$SO(14)\times E_7$	$E_8\times E_6\times SU(2)$						
M53	$E_6\times SU(9)$	$E_7\times E_7$	$SO(16)\times SO(10)$	$\frac{\times SU(12)\times SU(3)SU(3)}{Z_3}$						
M104	$E_7\times E_8$	$\frac{SO(28)\times SU(2)}{Z_2}$								
M117	$\frac{SO(24)\times SU(4)}{Z_2}$	$\frac{SU(16)}{Z_2}$	$E_7\times E_7$							
M221	$E_7\times E_8$	$\frac{SO(28)\times SU(2)}{Z_2}$								
M230	$\frac{SU(16)}{Z_2}$	$E_7\times E_7$								

Figure 3: Gauge groups Picard 17 (i.e. three moduli)

M44	$E_6 \times E_7$	$SU(7) \times E_8$	$SO(22) \times SU(3)$	$\frac{SU(2) \times SU(14)}{Z_2}$								
M51	$SO(12) \times E_8 \times Z_4$	$E_7 \times SU(6) \times SU(2)$	$SO(14) \times SO(10) \times SU(2)$	$E_6 \times SO(12) \times SU(2)$	$\frac{SU(8) \times SO(12) \times SU(2)}{Z_4}$	$SU(12) \times SU(2)$	$E_7 \times E_7 \times Z_4$	$E_7 \times E_6$	$SO(16) \times SU(6)$			
M52	$\frac{SU(4) \times E_7 \times SU(2) SU(4)}{Z_2}$	$SO(10) \times E_8$	$SO(16) \times SO(8)$	$E_7 \times E_7 \times Z_4$	$SU(2) \times SU(12) \times SU(2)$	$E_6 \times SU(8)$	$E_6 \times SU(8)$	$SO(10) \times SO(16)$				
M57	$SO(10) \times E_8$	$SO(18) \times SU(5)$	$E_7 \times SU(7)$	$SU(13) \times SU(2)$	$E_6 \times SO(14)$							
M58	$SO(10) \times SU(9)$	$E_6 \times E_7$	$SO(14) \times SO(10)$	$SU(7) \times E_6 \times SU(2)$	$SU(2) \times SU(11) \times SU(3)$							
M60	$SO(14) \times SU(7)$	$E_6 \times E_6 \times SU(2)$	$SO(14) \times SU(7)$	$SO(10) \times E_7$	$\frac{SU(12) \times SU(2) \times SU(2)}{Z_2}$							
M64	$SO(12) \times E_7$	$E_6 \times E_6$	$\frac{SU(4) \times SU(12)}{Z_2}$	$\frac{SO(20) \times SU(2) \times SU(2) SU(2)}{Z_2}$								
M65	$SO(12) \times SO(12)$	$E_6 \times E_6$	$\frac{SO(16) \times SU(4) \times SU(4)}{Z_2}$	$E_7 \times E_7 \times Z_4$	$E_7 \times SO(10) \times SU(2)$	$\frac{SU(8) \times SU(8)}{Z_2}$	$\frac{SU(12) \times SU(2) \times SU(2)}{Z_2}$					
M67	$SO(12) \times SO(12) \times SU(2)$	$\frac{SO(8) \times SO(12) \times SU(2) SU(2) SU(2)}{Z_2}$	$SU(8) \times SU(6)$	$SO(12) \times E_7 \times Z_2$	$SU(6) \times E_6$							
M68	$SO(14) \times SU(6)$	$SO(8) \times SU(9)$	$\frac{E_6 \times SU(3) \times SU(3) SU(3) SU(3)}{Z_3}$									
M69	$SO(12) \times SU(8)$	$E_7 \times SU(6)$	$SO(12) \times E_7$	$SO(14) \times SU(6) \times SU(2)$	$E_6 \times SO(10) \times SU(2) SU(2)$	$SU(11) \times SU(3)$						
M70	$SO(10) \times SU(6) \times SU(3) SU(2)$	$E_6 \times SO(10) \times SU(2)$	$SU(7) \times SU(7)$	$SU(8) \times SO(8) \times SU(2)$	$E_7 \times E_7 \times Z_3$	$SO(12) \times SO(12)$	$SO(12) \times SU(6)$					
M71	$SO(12) \times SU(6) \times SU(2)$	$SO(12) \times E_6$	$SU(8) \times SU(6)$	$E_7 \times SO(12) \times Z_2$	$\frac{SU(8) \times SO(8) \times SU(2) SU(2)}{Z_2}$	$SO(8) \times E_6 \times SU(2) SU(2)$	$SO(10) \times SO(10) \times SU(2) SU(3)$	$SO(10) \times SO(14)$				
M72	$SO(16) \times SU(5)$	$SO(10) \times SU(9)$	$E_6 \times SU(7) \times SU(2)$	$SO(10) \times E_8$	$SO(14) \times SO(10)$	$SU(3) \times SU(11) \times SU(2)$	$SU(5) \times E_7 \times SU(3)$	$E_6 \times SU(8)$	$E_7 \times E_6$			
M73	$SO(10) \times SU(8) \times SU(2)$	$SO(14) \times SU(6)$	$SU(6) \times E_6 \times SU(2) SU(2)$	$SO(12) \times SO(12)$	$SU(10) \times SU(4)$	$E_6 \times E_6 \times SU(2)$	$SO(8) \times E_7 \times SU(2)$					
M74	$SU(7) \times SO(10) \times SU(2)$	$E_7 \times E_7 \times Z_3$	$\frac{SU(6) \times SU(6) \times SU(3) SU(3)}{Z_3}$	$SO(10) \times SO(12) \times SU(2)$	$E_6 \times E_6$	$SU(8) \times SO(8)$						
M75	$E_6 \times E_7$	$SO(10) \times SU(8)$	$SO(8) \times SO(14)$	$SO(10) \times SU(8)$	$\frac{SU(9) \times SU(3) \times SU(3) SU(3)}{Z_3}$	$E_6 \times SU(6) \times SU(3)$						
M76	$E_6 \times SO(10) \times SU(3)$	$SO(10) \times SU(8)$	$SO(10) \times SO(14)$	$SU(5) \times E_6 \times SU(3) SU(2)$	$SO(12) \times SU(7)$	$E_7 \times SO(10)$	$SO(14) \times SU(5) \times SU(2)$	$SO(8) \times SU(9)$	$SU(9) \times SU(5) \times SU(2)$	$E_6 \times E_8 \times Z_3$		
M77	$SU(3) \times SU(10) \times SU(3)$	$SO(12) \times E_7$	$SU(7) \times E_6$	$\frac{SO(12) \times SU(6) \times SU(4)}{Z_2}$	$SU(6) \times SU(9)$	$SO(10) \times SO(12) \times SU(2)$	$E_6 \times E_7$					
M78	$E_7 \times SO(10)$	$SO(10) \times SO(12) \times SU(2)$	$SO(10) \times SO(12) \times SU(3)$	$SO(14) \times SO(8) \times SU(2)$	$SU(6) \times SU(8) \times SU(2)$	$E_7 \times E_6$	$SU(5) \times SU(9)$	$SU(6) \times E_6 \times SU(2)$	$\frac{SU(6) \times SO(12) \times SU(2) SU(2)}{Z_2}$	$SU(8) \times SO(10)$	$SO(12) \times E_6 \times SU(2)$	$E_6 \times E_7 \times Z_2$
M79	$SU(7) \times SO(10)$	$E_6 \times SO(12)$	$\frac{SU(8) \times SO(8) \times SU(2) SU(2)}{Z_2}$	$SO(10) \times SO(10) \times SU(2) SU(2)$	$E_7 \times E_7 \times Z_3$	$SU(6) \times SU(7) \times SU(3)$						
M80	$SU(7) \times E_7$	$E_6 \times SO(12)$	$E_6 \times E_7$	$SU(12) \times SU(3)$	$\frac{SU(6) \times SU(10)}{Z_2}$	$SO(18) \times SU(3) \times SU(3)$						
M81	$E_6 \times E_6$	$SO(12) \times SO(10)$	$SU(7) \times SO(10) \times SU(2)$	$\frac{SU(8) \times SU(6) \times SU(2)}{Z_2}$	$E_6 \times SO(10) \times SU(2)$	$SU(8) \times SU(5) \times SU(3)$	$E_7 \times E_6$	$SU(7) \times SO(10) \times SU(3)$				
M82	$SU(7) \times SO(12)$	$SO(10) \times E_6 \times SU(2)$	$E_6 \times SO(12)$	$SU(5) \times SO(14) \times SU(3)$	$SU(8) \times SU(7)$	$SO(10) \times E_7$	$\frac{SU(4) \times SU(10) \times SU(2)}{Z_2}$					
M83	$SU(5) \times SU(10)$	$SO(10) \times E_7 \times SU(2)$	$SO(12) \times SO(12)$	$\frac{SU(4) \times SO(16) \times SU(2) SU(2)}{Z_2}$	$E_6 \times SU(7)$							
M84	$E_7 \times E_6 \times Z_2$	$E_6 \times SO(10)$	$SU(7) \times SU(7)$	$\frac{SU(6) \times SO(12) \times SU(2) SU(2)}{Z_2}$	$E_6 \times E_6$	$\frac{SU(6) \times SU(8) \times SU(2)}{Z_2}$	$SO(12) \times SO(10) \times SU(2)$					
M101	$E_6 \times E_8$	$SO(26)$										
M125	$E_8 \times SO(10) \times SU(2)$	$SU(14)$	$SO(14) \times E_7$	$\frac{SU(4) \times SO(20) \times SU(2)}{Z_2}$	$SO(12) \times E_7$							
M139	$E_6 \times E_7$	$\frac{SU(14) \times SU(2)}{Z_2}$	$SU(3) \times SO(22)$	$SU(7) \times E_8$								
M140	$\frac{SU(14) \times SU(2)}{Z_2}$	$E_7 \times E_6$	$SO(22) \times SU(3)$									
M141	$E_7 \times SO(12)$	$SU(14)$	$\frac{SO(20) \times SU(2) \times SU(4)}{Z_2}$									
M144	$\frac{SU(12) \times SU(4)}{Z_2}$	$\frac{SU(12) \times SU(4)}{Z_2}$	$SO(12) \times E_7$	$E_6 \times E_6$								
M154	$SU(8) \times SO(10)$	$\frac{SU(9) \times SU(3) SU(3) SU(3)}{Z_3}$										
M155	$E_7 \times E_7 \times Z_4$	$\times SU(12)$	$\frac{SO(12) \times SO(12) \times SU(2) SU(2)}{Z_2}$									
M157	$SO(10) \times E_8$	$E_7 \times SU(7)$	$SU(13) \times SU(2)$	$SO(18) \times SU(5)$	$E_6 \times SO(14)$							
M158	$E_6 \times SU(7) \times SU(2)$	$SO(10) \times SU(9)$	$SO(10) \times SO(14)$	$E_7 \times E_6$	$\times SU(11) \times SU(3) SU(2)$							
M159	$\frac{SU(12) \times SU(2) SU(2)}{Z_2}$	$SO(14) \times SU(7)$	$SO(10) \times E_7$	$E_6 \times E_6 \times SU(2)$								
M166	$\frac{SU(8) \times SO(12) \times SU(2)}{Z_2}$	$SO(10) \times SO(14) \times SU(2)$	$SO(12) \times E_6 \times SU(2)$	$SU(12) \times SU(2)$	$E_7 \times E_6$	$E_7 \times E_7 \times Z_4$						
M167	$E_8 \times E_6 \times Z_4$	$E_6 \times E_7 \times SU(2)$	$\times SU(13)$	$\frac{SU(6) \times SO(16) \times SU(2)}{Z_2}$	$SO(12) \times SO(14)$	$E_7 \times SO(10) \times SU(2)$						
M169	$E_7 \times E_7 \times Z_4$	$E_6 \times SU(8)$	$\times SU(12) \times SU(2) SU(2)$	$SO(16) \times SO(8)$								
M176	$SO(16) \times SO(10)$	$\frac{SU(6) \times E_7 \times SU(2) SU(2)}{Z_2}$	$E_6 \times E_8 \times Z_4$	$\times SU(13)$								
M186	$\frac{SU(8) \times SU(8)}{Z_2}$	$\frac{SU(12) \times SU(2) SU(2)}{Z_2}$	$E_7 \times E_7 \times Z_4$	$E_6 \times E_6$	$SO(12) \times SO(12)$							
M187	$E_6 \times E_7$	$SO(12) \times E_6$	$\frac{SU(6) \times SU(10)}{Z_2}$	$SU(12) \times SU(3)$								
M247	$\frac{SO(24) \times SU(2) \times SU(2)}{Z_2}$	$E_7 \times E_7$	$SO(12) \times E_8$									
M248	$E_7 \times SO(12)$	$\times SU(14)$	$\frac{SO(20) \times SU(2) SU(4)}{Z_2}$									
M270	$\frac{SU(14) \times SU(2)}{Z_2}$	$E_7 \times E_6$										
M275	$\frac{SU(14) \times SU(2)}{Z_2}$	$E_7 \times E_6$	$SO(22) \times SU(3)$									
M282	$E_6 \times E_6$	$\frac{SU(12) \times SU(4)}{Z_2}$										
M473	$SO(26)$	$E_8 \times E_6$										
M476	$E_7 \times E_7$	$\frac{SO(24) \times SU(2) SU(2)}{Z_2}$										
M497	$E_7 \times E_6$	$\frac{SU(14) \times SU(2)}{Z_2}$										

Figure 4: Gauge groups Picard 16 (i.e. four moduli)

M109	$SO(22) \times SU(2)$	$E_7 \times E_6$	$SU(6) \times E_8$							
M124	$\frac{SU(12) \times SU(2) \times SU(2)}{Z_2}$	$E_6 \times SU(4) \times SU(3)$	$SO(20) \times SU(2)$	$SO(10) \times E_7$	$E_6 \times E_6$					
M143	$SU(6) \times E_7$	$E_6 \times SO(12)$	$SO(18) \times SU(2) \times SU(3)$	$SU(12) \times SU(2)$						
M161	$SO(10) \times E_7$	$SU(7) \times SO(10)$	$SU(4) \times E_6 \times SU(2)SU(3)$	$SU(2) \times SU(9) \times SU(2)SU(3)$	$SU(8) \times SO(8)$	$SO(10) \times SU(7)$	$SO(14) \times SO(8)$			
M165	$E_6 \times SO(12)$	$E_7 \times SU(7)$	$SO(18) \times SU(3) \times SU(2)$	$SU(6) \times E_7$	$SU(5) \times E_8$	$SU(2) \times SU(12)$				
M168	$E_7 \times E_6 \times Z_4$	$E_6 \times SU(6) \times SU(2)$	$E_7 \times SU(3) \times SU(2)SU(3)$	$SU(11) \times SU(2)$	$SU(8) \times SO(10)$	$SO(16) \times SU(5)$	$SO(8) \times SO(14)$			
M170	$SO(12) \times SU(6) \times SU(2)$	$SO(10) \times SO(10) \times SU(2)SU(2)$	$SO(12) \times E_7 \times Z_4$	$SU(2) \times SU(10)$						
M171	$E_7 \times SO(8) \times SU(2)$	$SU(6) \times E_6$	$SO(12) \times SO(12)$	$SU(4) \times SU(10)$	$\frac{SO(16) \times SU(2) \times SU(2)SU(2)SU(2)}{Z_2}$					
M172	$E_7 \times SO(10)$	$SO(12) \times SO(10) \times SU(2)$	$E_7 \times SO(12) \times Z_4$	$SU(6) \times E_6$	$\frac{SO(12) \times SU(4) \times SU(2)SU(4)}{Z_2}$	$SU(6) \times SU(8)$	$SO(8) \times SO(12) \times SU(2)$	$SU(10) \times SU(2) \times SU(2)$		
M178	$E_6 \times SU(7)$	$E_6 \times SU(7)$	$SO(16) \times SU(4)$	$E_7 \times SU(4) \times SU(3)$	$SO(14) \times SO(10)$	$SU(11) \times SU(2) \times SU(2)$	$SO(8) \times E_8$			
M179	$SO(14) \times SU(5)$	$E_6 \times E_6$	$SO(10) \times SO(12)$	$SO(10) \times SU(7) \times SU(2)$	$SU(6) \times E_6 \times SU(2)$	$SU(10) \times SU(2) \times SU(2)$	$SO(10) \times SU(7) \times SU(2)$			
M180	$SO(12) \times SU(7)$	$SO(14) \times SU(6)$	$SU(11) \times SU(2)$	$E_6 \times SO(10) \times SU(2)$	$E_7 \times SO(10)$	$SO(14) \times SU(5) \times SU(2)$	$SU(5) \times E_7$			
M182	$SO(10) \times E_6 \times SU(2)$	$SU(4) \times SO(14) \times SU(3)$	$E_6 \times SO(10)$	$\frac{SU(10) \times SU(2) \times SU(2)SU(2)}{Z_2}$	$SU(7) \times SU(7)$	$SU(6) \times SO(12)$	$E_7 \times SO(8)$	$SO(10) \times E_6$		
M188	$SU(6) \times E_7$	$\frac{SU(2) \times SU(10) \times SU(4)}{Z_2}$	$E_6 \times SO(10)$	$SU(3) \times SU(11)$						
M189	$SU(3) \times SU(11)$	$E_7 \times SO(10)$	$\frac{SU(10) \times SU(4) \times SU(2)}{Z_2}$	$SO(12) \times E_6$	$E_6 \times SO(10)$	$SU(6) \times E_7$	$SO(18) \times SU(2) \times SU(2)$			
M190	$E_6 \times SO(10)$	$\frac{SU(6) \times SU(8) \times SU(2)}{Z_2}$	$SO(12) \times SO(10)$	$E_7 \times SU(5) \times SU(2)$	$SO(16) \times SU(3) \times SU(3)$	$SU(11) \times SU(2)$	$E_6 \times E_7 \times Z_4$	$E_6 \times E_6$		
M191	$SU(6) \times E_6$	$SU(10) \times SU(2) \times SU(3)$	$SU(9) \times SU(5)$	$SO(12) \times SO(10)$	$SO(10) \times E_7$					
M192	$\frac{SU(10) \times SU(2) \times SU(2)SU(2)}{Z_2}$	$E_6 \times SO(10)$	$SU(7) \times SU(7)$	$SU(6) \times SO(12)$						
M196	$SO(10) \times E_6$	$SO(10) \times SO(10)$	$\frac{SU(8) \times SU(4) \times SU(4)}{Z_4}$	$\frac{SU(10) \times SU(2) \times SU(2)SU(2)}{Z_2}$						
M197	$\frac{SO(8) \times SO(8) \times SU(2)SU(2)SU(2)SU(2)}{Z_2}$	$SU(6) \times SU(6)$	$SO(12) \times SO(12) \times Z_2$							
M198	$SO(10) \times SO(10) \times SU(2)$	$SU(6) \times SU(6)$	$SU(6) \times SO(8) \times SU(2)SU(2)$	$SO(12) \times SO(12) \times Z_2$						
M199	$SO(12) \times SU(6)$	$SO(10) \times SU(6) \times SU(2)SU(2)$	$SU(3) \times SU(9)$							
M200	$SU(9) \times SU(4)$	$SU(3) \times E_6 \times SU(3)SU(2)SU(2)$	$SU(8) \times SO(8)$	$SO(14) \times SU(5)$	$SO(12) \times SU(6)$					
M201	$SU(6) \times SU(6) \times SU(2)$	$\frac{SU(6) \times SO(8) \times SU(2)SU(2)SU(2)}{Z_2}$	$E_6 \times SO(12) \times Z_2$	$SO(10) \times SO(8) \times SU(2)SU(2)$	$SO(10) \times SO(12)$	$SU(7) \times SU(5)$	$SU(6) \times SO(10)$			
M202	$SO(10) \times SU(6) \times SU(2)$	$\frac{SU(3) \times SU(6) \times SU(3)SU(3)SU(3)}{Z_3}$	$SU(7) \times SO(8)$							
M203	$SU(8) \times SU(6)$	$SO(8) \times E_6 \times SU(2)$	$SU(7) \times SO(12)$	$SO(14) \times SU(3) \times SU(2)SU(3)$	$SU(10) \times SU(3)$	$E_7 \times SU(5)$	$SU(6) \times SO(12)$	$SO(12) \times E_6$		
M204	$E_6 \times SU(5) \times SU(2)SU(2)$	$SO(14) \times SU(5)$	$SU(3) \times SU(10)$	$SU(4) \times E_7 \times SU(2)$	$SU(8) \times SO(10)$					
M205	$SU(5) \times E_6 \times SU(3)$	$SO(8) \times SU(8)$	$SO(10) \times SU(7)$	$SU(4) \times SO(14)$	$SU(9) \times SU(3) \times SU(2)SU(2)$					
M206	$SU(6) \times E_6$	$SU(5) \times SU(9)$	$SO(10) \times SO(12)$	$SO(16) \times SU(3) \times SU(2)$	$SU(3) \times SU(10) \times SU(2)$	$E_7 \times SO(10)$	$SU(7) \times E_6$	$E_7 \times SU(5) \times SU(2)$		
M207	$SU(9) \times SU(3) \times SU(2)$	$SO(10) \times SO(10) \times SU(2)$	$E_6 \times SU(6)$	$SU(5) \times SO(12) \times SU(3)$	$SU(6) \times SU(7) \times SU(2)$	$SU(5) \times SO(12) \times SU(2)$	$SO(12) \times E_6$	$E_7 \times SO(10)$	$SO(10) \times SU(7)$	
M208	$SU(6) \times SO(10) \times SU(2)$	$SO(12) \times SO(8) \times SU(2)$	$SU(6) \times SU(6) \times SU(2)SU(2)$	$E_6 \times E_6 \times Z_2$	$SU(4) \times SU(8)$					
M209	$SU(6) \times SO(10) \times SU(2)$	$SO(10) \times E_7$	$SU(7) \times SO(10)$	$SU(5) \times E_6 \times SU(2)$	$SO(12) \times SO(8)$	$SO(10) \times SU(6) \times SU(3)$	$E_6 \times E_6$	$SU(8) \times SU(3) \times SU(3)SU(2)$	$SU(5) \times SU(8)$	
M210	$SO(10) \times SO(10) \times SU(3)$	$SO(12) \times SU(5) \times SU(2)$	$E_7 \times SO(10) \times Z_2$	$SU(8) \times SU(5)$	$E_6 \times SU(4) \times SU(2)SU(2)$	$SU(8) \times SO(8)$	$SO(8) \times SO(14)$			
M211	$SO(10) \times SO(12)$	$SO(10) \times E_6$	$SU(5) \times SO(12)$	$SU(7) \times SO(8) \times SU(2)$	$SU(7) \times SU(6)$	$E_6 \times SO(8) \times SU(2)$	$SU(5) \times SO(10) \times SU(3)SU(2)$	$SU(4) \times SU(8) \times SU(2)$	$SO(10) \times SU(6) \times SU(2)$	
M212	$SU(7) \times SO(8)$	$SO(10) \times SO(12)$	$SU(5) \times SU(7) \times SU(2)$	$SO(10) \times SO(10) \times SU(2)$	$SU(7) \times SO(8) \times SU(2)$	$E_6 \times SO(10)$	$E_6 \times E_7 \times Z_3$	$SU(5) \times SO(10) \times SU(2)SU(2)$	$SU(5) \times SU(6) \times SU(2)SU(3)$	$SU(6) \times SO(10)$
M213	$SO(12) \times SO(10) \times SU(2)$	$SU(8) \times SU(5)$	$E_6 \times SU(5)$	$SO(10) \times E_7 \times Z_2$	$SU(7) \times SU(6)$	$\frac{SO(12) \times SU(4) \times SU(2)SU(2)SU(2)}{Z_2}$	$SO(12) \times SO(8) \times SU(2)$			
M214	$SU(4) \times SU(9)$	$SU(6) \times SO(12)$	$E_7 \times SO(8)$	$SO(10) \times SO(12)$	$SU(5) \times E_6 \times SU(2)$	$SU(7) \times SO(10)$	$E_6 \times SO(10) \times SU(2)$	$SU(8) \times SU(5) \times SU(2)$	$SO(14) \times SU(4) \times SU(2)$	
M215	$SO(10) \times E_6$	$E_6 \times E_6$	$\frac{SU(6) \times SU(6) \times SU(2)SU(2)}{Z_2}$	$SO(10) \times SO(10)$	$SO(8) \times SO(12)$	$SU(7) \times SU(5) \times SU(2)$	$SO(10) \times SU(6) \times SU(2)$	$SO(10) \times SO(10) \times SU(2)$	$E_6 \times E_6 \times Z_2$	

Figure 5: Gauge groups Picard 15 (i.e. five moduli), Part 1

M216	$SO(8) \times E_6$	$SO(12) \times SU(5) \times SU(2)$	$\frac{SU(4) \times SU(8) \times SU(2)SU(2)}{Z_2}$	$SU(7) \times SU(6)$	$SO(10) \times SO(10) \times SU(2)$	$SO(10) \times E_7 \times Z_2$	$E_6 \times SO(10)$	$SO(12) \times SO(10)$	
M217	$SO(10) \times SO(10)$	$E_6 \times SU(6)$	$E_6 \times E_6$	$\frac{SU(6) \times SU(6) \times SU(4)}{Z_2}$	$SU(3) \times SU(9) \times SU(3)$				
M218	$E_6 \times E_6 \times Z_2$	$SU(6) \times SU(6)$	$SO(10) \times SO(10)$	$\frac{SU(6) \times SU(6) \times SU(2)SU(2)}{Z_2}$					
M219	$SU(6) \times SO(10)$	$E_6 \times SO(10)$	$\frac{SU(4) \times SU(8) \times SU(2)SU(2)}{Z_2}$	$SU(5) \times SU(7) \times SU(3)$	$SO(10) \times SO(10)$				
M238	$SO(22) \times SU(2)$	$SU(6) \times E_8$	$E_7 \times E_6$						
M272	$E_6 \times E_6$	$\frac{SU(12) \times SU(2)SU(2)}{Z_2}$	$SU(2) \times SO(20)$						
M277	$E_7 \times SO(10)$	$SU(13)$							
M291	$SU(12)$	$\frac{E_7 \times SU(2) \times SU(4)SU(2)SU(2)}{Z_2}$	$SO(16) \times SO(8)$						
M300	$SO(12) \times E_6$	$SU(2) \times SU(12)$	$SO(18) \times SU(2)SU(3)$	$E_7 \times SU(6)$					
M301	$E_7 \times SO(8) \times SU(2)$	$SU(12)$	$\frac{SO(16) \times SU(2) \times SU(2)SU(4)}{Z_2}$	$SO(12) \times SO(12)$					
M305	$E_7 \times SU(7)$	$SO(18) \times SU(3) \times SU(2)$	$E_6 \times SO(12)$	$SU(12) \times SU(2)$					
M309	$E_7 \times SO(10)$	$\frac{SU(12) \times SU(2) \times SU(2)}{Z_2}$	$E_6 \times E_6$	$SO(20) \times SU(2)$					
M310	$E_7 \times SO(10) \times SU(2)$	$SO(12) \times SO(12)$	$SU(12)$	$\frac{SU(4) \times SO(16) \times SU(2)SU(2)}{Z_2}$					
M311	$SU(4) \times SO(18)$	$SU(13)$	$SO(8) \times E_8$	$SO(14) \times E_6$	$E_7 \times SU(6)$				
M313	$SU(13)$	$SU(3) \times SO(20)$	$SO(10) \times E_7$	$SU(5) \times E_8 \times SU(2)$					
M317	$SO(12) \times E_6$	$SU(2) \times SO(18) \times SU(3)$	$SU(12) \times SU(2)$	$SU(6) \times E_7$					
M320	$\frac{SU(10) \times SU(2)SU(4)}{Z_2}$	$SO(10) \times E_6$	$SU(3) \times SU(11)$	$SU(6) \times E_7$					
M344	$SU(11) \times SU(3)$	$SO(10) \times E_6$	$\frac{SU(10) \times SU(4) \times SU(2)}{Z_2}$	$SO(12) \times E_6$	$E_7 \times SO(10)$				
M350	$SO(10) \times E_6$	$\frac{SU(10) \times SU(2) \times SU(4)}{Z_2}$	$SU(11) \times SU(3)$						
M359	$SU(8) \times SO(8)$	$SU(7) \times SO(10)$	$SU(9) \times SU(2)SU(3)SU(2)$						
M362	$E_6 \times SU(6) \times SU(2)$	$E_6 \times E_7 \times Z_4$	$SO(10) \times SU(8)$	$SO(8) \times SO(14)$	$SU(11) \times SU(2)$				
M363	$SO(10) \times SU(7) \times SU(2)$	$SU(10) \times SU(2)SU(2)$	$SO(10) \times SO(12)$	$E_6 \times E_6$					
M364	$E_6 \times SO(10) \times SU(2)$	$SO(14) \times SU(5) \times SU(2)$	$SO(12) \times SU(7)$	$SU(11) \times SU(2)$	$SO(10) \times E_7$				
M365	$SO(8) \times E_7$	$SO(14) \times SU(6)$	$SU(12)$	$E_6 \times E_6 \times SU(2)$					

Figure 6: Gauge groups Picard 15 (i.e. five moduli) Part 2

M375	$SO(10) \times SO(14)$	$SU(12)$	$E_7 \times SU(5) \times SU(2)$	$SU(5) \times SO(16)$	$E_8 \times SO(10) \times Z_4$		
M376	$\frac{SU(6) \times SO(12) \times SU(2) SU(2)}{Z_2}$	$SU(11)$	$SO(10) \times SO(12) \times SU(2)$	$E_7 \times E_6 \times Z_4$			
M377	$E_6 \times SU(7)$	$SU(11) \times SU(2) SU(2)$	$SO(16) \times SU(4)$				
M379	$SU(10) \times SU(2) SU(3)$	$SO(10) \times E_7$	$SU(6) \times E_6$	$SU(9) \times SU(5)$	$SO(12) \times SO(10)$		
M384	$\frac{SU(10) \times SU(2) SU(2) SU(2)}{Z_2}$	$SO(10) \times E_6$	$SO(12) \times SU(6)$	$SU(7) \times SU(7)$			
M402	$SO(10) \times SO(12)$	$E_6 \times E_6$	$E_7 \times E_6 \times Z_4$	$\frac{SU(6) \times SU(8) \times SU(2)}{Z_2}$	$E_6 \times SO(10)$	$SU(11) \times SU(2)$	
M513	$SO(12) \times SO(12)$	$SU(12)$	$\frac{SO(16) \times SU(4) SU(2) SU(2)}{Z_2}$				
M529	$SU(2) \times SO(22)$	$SU(6) \times E_8$	$E_7 \times E_6$				
M537	$SO(12) \times E_6$	$SO(18) \times SU(2) SU(3)$	$SU(12) \times SU(2)$				
M544	$\frac{SO(20) \times SU(2) \times SU(2) SU(2)}{Z_2}$	$E_7 \times SO(12)$					
M549	$E_7 \times SO(10)$	$E_6 \times E_6$	$\frac{SU(12) \times SU(2) \times SU(2)}{Z_2}$				
M572	$E_6 \times SO(10)$	$SU(11) \times SU(3)$	$\frac{SU(10) \times SU(2) SU(4)}{Z_2}$				
M587	$E_7 \times SO(10)$	$SO(20) \times SU(3)$	$SU(13)$				
M588	$\frac{SU(12) \times SU(2) SU(2)}{Z_2}$	$E_6 \times E_6$	$SO(20) \times SU(2)$				
M792	$SO(24)$	$SO(10) \times E_8$					
M859	$SU(13)$	$SO(10) \times E_7$					
M866	$SO(22) \times SU(2)$	$E_7 \times E_6$					
M895	$E_6 \times E_6$	$\frac{SU(12) \times SU(2) SU(2)}{Z_2}$					

Figure 7: Gauge groups Picard 15 (i.e. five moduli) Part 3

1 2 Fibers

M531	$SO(18) \times SU(2)SU(2)$	$SU(6) \times E_7$	
M936	$SU(9) \times SU(3)SU(2)$	$SO(10) \times SO(10)$	
M959	$E_6 \times SO(10)$	$\frac{SU(10) \times SU(2) \times SU(2)SU(2)}{Z_2}$	
M987	$E_6 \times SO(8)$	$SU(10) \times SU(3)$	
M1191	$SU(12)$	$SO(8) \times E_7$	
M1201	$SU(5) \times E_8$	$SO(22)$	
M1220	$SO(20) \times SU(2)$	$SO(10) \times E_7$	
M1328	$SO(10) \times E_6$	$SU(11) \times SU(2)$	
M1346	$E_6 \times E_6$	$SO(20)$	

Figure 8: Picard 14 (i.e. 6 moduli) with two fibers

M962	$SU(9) \times SU(2)SU(2)$	$SU(5) \times E_6$	
M1084	$SU(6) \times SO(8)$	$SU(9)$	
M1395	$SU(9) \times SU(3)$	$E_6 \times SU(4)$	
M1430	$SU(2) \times SO(16)$	$SU(6) \times E_6$	
M1556	$SO(20)$	$E_8 \times SU(2) \times SU(3)$	
M1621	$SU(3) \times E_8 \times SU(2)$	$SO(20)$	
M1703	$SU(4) \times E_7$	$SU(11)$	
M1728	$SO(8) \times E_6$	$SU(10) \times SU(2)$	
M1729	$SU(5) \times E_7$	$SO(18) \times SU(2)$	
M1740	$SO(18)$	$SO(10) \times E_6$	
M1792	$SU(10)$	$SO(10) \times SO(10)$	
M1980	$SO(20)$	$E_8 \times SU(3)SU(2)$	
M1985	$SO(22)$	$SU(4) \times E_8$	

Figure 9: Picard 13 (i.e. 7 moduli) with two fibers

M1389	$SU(3) \times SO(14)$	$SU(9)$	
M1432	$SU(3) \times E_6 \times SU(3)$	$SO(14)$	
M1675	$E_6 \times SU(3)$	$SU(9) \times SU(3)$	
M1701	$SO(14) \times SU(4)$	$SU(2) \times E_7$	
M1872	$SU(5) \times SO(10)$	$SU(2) \times SU(8)$	
M1902	$SO(8) \times SO(8)$	$SU(8) \times SU(2)$	
M2014	$SO(16) \times SU(2)$	$E_7 \times SU(3)SU(2)$	
M2021	$E_7 \times SU(2) \times SU(2)$	$SU(10)$	
M2037	$SO(16) \times SU(3)$	$SU(2) \times E_7 \times SU(2)$	
M2054	$SO(18)$	$SU(2) \times E_8$	
M2055	$SO(16) \times SU(2)$	$E_7 \times SU(2) \times SU(3)$	
M2126	$SU(11)$	$SU(3) \times E_7$	
M2133	$SU(10)$	$E_7 \times SU(3)$	
M2134	$SU(3) \times E_7 \times SU(2)$	$SO(16) \times SU(2)$	
M2236	$SU(5) \times E_6$	$SO(16)$	
M2204	$SU(4) \times E_6$	$SU(9) \times SU(2)$	
M2197	$SU(9)$	$SO(10) \times SO(8)$	
M2153	$SO(16)$	$SO(10) \times SO(10)$	
M2407	$SO(16) \times SU(2)$	$E_7 \times SU(3)SU(2)$	
M2408	$SU(3) \times E_7$	$SU(11)$	
M2421	$SO(18) \times SU(2)$	$SU(4) \times E_7$	
M2428	$E_8 \times SU(2)$	$SO(18)$	
M2732	$SO(20)$	$SU(2) \times E_8 \times SU(2)$	

Figure 10: Picard 12 (i.e. 8 moduli) with two fibers

M1529	$SU(4) \times SU(4)$	$SO(8) \times SO(8) \times Z_2$	
M1663	$E_6 \times SU(3)$	$SU(9) \times SU(2)$	
M1734	$SO(14)$	$SU(3) \times E_6 \times SU(2)$	
M1878	$SO(10) \times SU(3) \times SU(2)$	$SU(7)$	
M2015	$E_6 \times SU(3)SU(2)$	$SO(14)$	
M2058	$SU(9) \times SU(2)$	$E_6 \times SU(3)$	
M2064	$E_7 \times SU(2)$	$SU(2) \times E_8 \times Z_4$	
M2154	$SO(14) \times SU(2)$	$SU(2) \times E_7$	
M2155	$SU(2) \times SO(14)$	$E_6 \times SU(2) \times SU(2)$	
M2169	$E_6 \times SU(2)$	$SU(8) \times SU(2)$	
M2240	$SU(2) \times SO(12)$	$SU(4) \times SO(10) \times SU(2)$	
M2328	$SU(7) \times SU(2)$	$SO(8) \times SU(4)$	
M2390	$E_8 \times SU(2) \times Z_4$	$E_7 \times SU(2)$	
M2398	$E_7 \times SU(2)$	$SU(10)$	
M2427	$SO(16)$	$SU(2) \times E_8 \times Z_4$	
M2441	$E_7 \times SU(2)$	$SU(2) \times E_8 \times Z_4$	
M2472	$SO(14) \times SU(2)$	$SU(9)$	
M2473	$SO(12) \times SU(3)SU(2)$	$SU(2) \times SO(12) \times SU(2)$	
M2501	$SU(2) \times E_7$	$SU(9)$	
M2503	$SU(2) \times E_6 \times SU(2)$	$SU(8) \times SU(2)$	
M2517	$SU(8) \times SU(3)$	$E_6 \times SU(2)$	
M2525	$SO(14) \times SU(2)$	$SU(2) \times E_7$	
M2527	$E_7 \times SU(2)$	$SO(14) \times SU(2)$	
M2529	$SU(2) \times E_6 \times SU(3)$	$SO(14)$	
M2530	$SU(2) \times E_6 \times SU(2)$	$SO(14) \times SU(2)$	
M2537	E_7	$SU(3) \times SO(14)$	
M2551	$SU(8)$	$SO(12) \times SU(2)SU(2)$	

Figure 11: Picard 11 (i.e. 9 moduli) with two fibers (Part 1)

M2567	$SU(8)$	$SO(8) \times SO(8)$	
M2571	$SU(3) \times SO(12)$	$SU(9)$	
M2600	$SU(9) \times SU(2)$	$SU(3) \times E_6$	
M2606	$SU(3) \times E_6$	$SU(8) \times SU(2)$	
M2607	$SU(5) \times SO(10)$	$SO(14)$	
M2609	$SO(14)$	$SU(3) \times E_6 \times SU(2)$	
M2636	$SU(8)$	$SU(4) \times SO(10)$	
M2727	$SO(16)$	$E_8 \times SU(2) \times Z_4$	
M2744	$E_8 \times SU(2) \times Z_4$	$E_7 \times SU(2)$	
M2787	E_8	$SU(3) \times E_7$	
M2794	$SU(10)$	$E_7 \times SU(2)$	
M2800	E_8	$SO(16)$	
M2803	$E_7 \times SU(2)$	$SU(10)$	
M2804	E_7	$SO(14) \times SU(3)$	
M2835	$E_6 \times SU(3)SU(2)$	$SO(14)$	
M2836	$E_7 \times SU(2)$	$SU(9)$	
M2860	$SU(3) \times E_6$	$SU(9) \times SU(2)$	
M2864	$E_7 \times SU(2)$	$SO(14) \times SU(2)$	
M2874	$SO(16)$	$SU(4) \times E_6$	
M3071	E_8	$E_7 \times SU(3)$	
M3112	$SO(16) \times SU(2)$	$SU(2) \times E_7 \times SU(2)$	
M3120	$SU(10)$	$SU(2) \times E_7$	
M3340	$SO(18)$	E_8	

Figure 12: Picard 11 (i.e. 9 moduli) with two fibers (Part 2)

M1598	$SU(2) \times SU(6)$	$SO(12) \times SU(2) \times SU(2) \times Z_4$	
M1795	$SU(2) \times SU(7)$	$SO(8) \times SU(3)$	
M1886	$SU(2) \times SU(5) \times SU(2)$	$E_6 \times SU(3) \times Z_3$	
M2027	$SU(6) \times SU(3)SU(2)$	$SO(10) \times SU(2)$	
M2061	E_7	$E_6 \times SU(2)$	
M2156	E_6	$E_7 \times SU(2) \times Z_4$	
M2159	$SO(12)$	$SU(2) \times E_6$	
M2171	$SO(10) \times SU(3)$	$SU(8)$	
M2246	$SO(10)$	$SU(2) \times SO(10) \times SU(2)$	
M2248	$SU(7)$	$SU(3) \times SO(10)$	
M2249	$SO(10) \times SU(2)$	$SU(3) \times SU(6) \times SU(2)$	
M2266	$SO(10) \times SU(2)$	$SU(7)$	
M2267	$SU(2) \times SO(12)$	$SU(7)$	
M2354	$SU(6)$	$SU(4) \times SU(4)$	
M2440	E_7	$E_6 \times SU(2)$	
M2464	$SU(6) \times SU(2)SU(3)$	$SO(10) \times SU(2)$	
M2526	$E_7 \times SU(2) \times Z_4$	$SO(12) \times SU(2)$	
M2531	$E_6 \times SU(2)$	$SO(12)$	
M2533	$SO(14)$	$SU(8)$	
M2534	$SO(10) \times SU(3)$	$SU(8)$	

Figure 13: Picard 10 (i.e. 10 moduli) with two fibers (Part 1/4)

M2573	$SO(10) \times SU(2)$	$SU(2) \times SU(7)$	
M2608	$SU(2) \times E_6$	$SU(2) \times SU(7)$	
M2619	$SU(3) \times SO(8)$	$SU(7) \times SU(2)$	
M2622	$SU(2) \times SO(10) \times SU(2)$	$SU(2) \times SO(12)$	
M2638	$SU(4) \times SO(8)$	$SU(2) \times SU(6)$	
M2640	$SU(3) \times SU(6)$	$SU(2) \times SO(10)$	
M2696	$SU(6) \times SU(2)$	$SU(4) \times SU(4)$	
M2728	E_6	$E_7 \times SU(2) \times Z_4$	
M2784	$SO(12) \times SU(2)$	$SU(8)$	
M2788	$SU(3) \times E_6$	$E_8 \times Z_3$	
M2793	$SU(2) \times E_6 \times SU(2)$	$SO(14)$	
M2797	$E_7 \times SU(2) \times Z_4$	$SO(12) \times SU(2)$	
M2811	$SU(8) \times SU(2)$	$SU(2) \times E_6$	
M2859	$SU(8) \times SU(2)$	$E_6 \times SU(2)$	
M2861	$E_7 \times SU(2) \times Z_4$	$SU(8)$	
M2862	E_6	$E_7 \times SU(2) \times Z_4$	
M2863	$SU(2) \times E_7 \times Z_4$	$SO(12) \times SU(2)$	
M2865	E_6	$SU(2) \times SO(12)$	
M2868	$SO(10) \times SU(2) \times SU(3)$	$SO(12)$	
M2869	$SO(12) \times SU(2)$	$SU(8)$	

Figure 14: Picard 10 (i.e. 10 moduli) with two fibers (Part 2/4)

M2875	$SU(2) \times E_6$	E_7	
M2877	$SU(2) \times SO(12)$	E_7	
M2912	$E_6 \times SU(2)$	$SU(7) \times SU(2)$	
M2914	$SO(12) \times SU(2)$	$SU(7)$	
M2917	$SO(10) \times SU(2)$	$SU(7) \times SU(2)$	
M2918	$SU(6) \times SU(3)SU(2)$	$SO(10) \times SU(2)$	
M2919	$SU(7)$	$SO(10) \times SU(2) \times SU(2)$	
M2942	$SU(2) \times E_6$	$SU(7) \times SU(2)$	
M2947	$SU(7) \times SU(3)$	E_6	
M2948	$SU(3) \times SO(10) \times SU(2)$	$SO(12)$	
M2955	$SU(2) \times E_6$	$SO(12)$	
M2956	$SU(2) \times SO(10) \times SU(2)$	$SO(12) \times SU(2)$	
M2970	$SU(7)$	$SU(4) \times SO(8)$	
M2982	E_6	$SU(7) \times SU(2)$	
M2990	$SU(7)$	$SO(10) \times SU(3)$	
M3002	$SU(5) \times SU(5)$	$SO(12)$	
M3005	$SO(10) \times SU(3)$	$SU(8)$	
M3066	$E_8 \times Z_3$	$SU(9)$	
M3067	$E_6 \times SU(3)$	$E_8 \times Z_3$	
M3068	$SO(14)$	$E_8 \times Z_3$	
M3102	E_6	$E_7 \times SU(2) \times Z_4$	
M3103	$SU(2) \times E_6$	$SU(8) \times SU(2)$	

Figure 15: Picard 10 (i.e. 10 moduli) with two fibers (Part 3/4)

M3109	$SU(8)$	$E_7 \times SU(2) \times Z_4$	
M3114	$SU(2) \times E_6$	E_7	
M3116	$SO(12) \times SU(2)$	$E_7 \times SU(2) \times Z_4$	
M3144	$SU(8)$	$SO(12) \times SU(2)$	
M3145	$SO(10) \times SU(3)SU(2)$	$SO(12)$	
M3149	$SO(12) \times SU(2)$	$SU(8)$	
M3167	E_7	$SU(8)$	
M3174	$SU(7) \times SU(3)$	E_6	
M3176	$SO(14)$	$SU(4) \times SO(10)$	
M3183	$SU(8) \times SU(2)$	$E_6 \times SU(2)$	
M3184	$SO(12) \times SU(2)$	E_6	
M3186	E_7	$SU(3) \times SO(12)$	
M3188	$SU(2) \times E_7 \times Z_4$	$SO(12) \times SU(2) \times SU(2)$	
M3189	$E_6 \times SU(2)$	E_7	
M3192	$SO(12) \times SU(2)$	E_7	
M3219	$E_6 \times SU(2)$	$SU(7) \times SU(2)$	
M3230	$SO(10) \times SU(3)$	$SU(8)$	
M3231	$SO(14)$	$SU(8)$	
M3258	$E_6 \times SU(2)$	$SO(12)$	
M3378	E_7	$E_6 \times SU(2)$	
M3381	$SO(14) \times SU(2)$	E_7	
M3385	E_7	$SO(12) \times SU(3)$	
M3426	$SU(2) \times E_6$	$SU(8) \times SU(2)$	
M3438	$SU(9)$	E_7	
M3440	$SO(14)$	$SU(2) \times E_6 \times SU(2)$	
M3569	$E_7 \times SU(2)$	$E_8 \times Z_4$	
M3598	E_7	$SU(9)$	
M3608	$SO(14) \times SU(2)$	E_7	
M3745	$SO(16)$	$E_8 \times Z_4$	
M3751	$E_7 \times SU(2)$	$E_8 \times Z_4$	

Figure 16: Picard 10 (i.e. 10 moduli) with two fibers (Part 4/4)