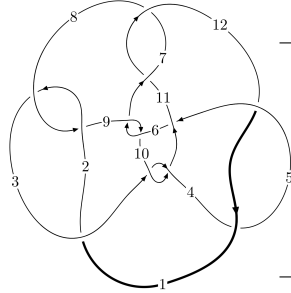
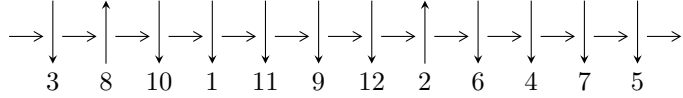


12a₀₇₈₀ (K12a₀₇₈₀)



A knot diagram¹

Linearized knot diagram



Solving Sequence

$$3,10 \xrightarrow{c_3} 4 \xrightarrow{c_{10}} 8,11 \xrightarrow{c_2} 2 \xrightarrow{c_8} 9 \xrightarrow{c_1} 1 \xrightarrow{c_4} 5 \xrightarrow{c_5} 6 \xrightarrow{c_{12}} 12 \xrightarrow{c_7} 7 \rightsquigarrow c_6, c_9, c_{11}$$

Ideals for irreducible components² of X_{par}

$$I_1^u = \langle -2.19508 \times 10^{19}u^{30} + 3.73360 \times 10^{19}u^{29} + \dots + 4.83245 \times 10^{19}b + 3.36053 \times 10^{19}, \\ 2.65488 \times 10^{19}u^{30} - 4.25989 \times 10^{19}u^{29} + \dots + 4.83245 \times 10^{19}a - 9.79800 \times 10^{19}, u^{31} - u^{30} + \dots + 4u^2 - 1 \rangle$$

$$I_2^u = \langle 6.81132 \times 10^{282}u^{103} + 3.29331 \times 10^{282}u^{102} + \dots + 2.47281 \times 10^{283}b + 2.22084 \times 10^{285}, \\ 4.11438 \times 10^{284}u^{103} + 2.15076 \times 10^{284}u^{102} + \dots + 1.47544 \times 10^{285}a + 1.58373 \times 10^{287}, \\ u^{104} + u^{103} + \dots + 1113u + 179 \rangle$$

$$I_3^u = \langle 2.88283 \times 10^{16}u^{39} + 2.47312 \times 10^{16}u^{38} + \dots + 5.40032 \times 10^{14}b - 1.88417 \times 10^{16}, \\ 5041365482875379u^{39} - 1853997132134618u^{38} + \dots + 49093794862181a + 5201527324398439, \\ u^{40} - 13u^{38} + \dots + u + 1 \rangle$$

$$I_4^u = \langle -u^5 - u^3 + u^2 + b + u, u^7 - u^6 + 2u^5 - 3u^4 - u^2 + a - u + 2, u^8 + u^6 - u^5 - 2u^4 + u + 1 \rangle$$

$$I_5^u = \langle 402075u^{23} + 134432u^{22} + \dots + 844628b - 3815144, \\ 1297281615u^{23} + 828936233u^{22} + \dots + 956118896a - 5354919116, u^{24} - 4u^{22} + \dots - 14u + 4 \rangle$$

$$I_6^u = \langle b, a + 1, u + 1 \rangle$$

* 6 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 208 representations.

¹The image of knot diagram is generated by the software “**Draw programme**” developed by Andrew Bartholomew(<http://www.layer8.co.uk/maths/draw/index.htm#Running-draw>), where we modified some parts for our purpose(<https://github.com/CATsTAILs/LinksPainter>).

²All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I.

$$I_1^u = \langle -2.20 \times 10^{19} u^{30} + 3.73 \times 10^{19} u^{29} + \dots + 4.83 \times 10^{19} b + 3.36 \times 10^{19}, 2.65 \times 10^{19} u^{30} - 4.26 \times 10^{19} u^{29} + \dots + 4.83 \times 10^{19} a - 9.80 \times 10^{19}, u^{31} - u^{30} + \dots + 4u^2 - 1 \rangle$$

(i) Arc colorings

$$\begin{aligned} a_3 &= \begin{pmatrix} 1 \\ 0 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} 0 \\ u \end{pmatrix} \\ a_4 &= \begin{pmatrix} 1 \\ u^2 \end{pmatrix} \\ a_8 &= \begin{pmatrix} -0.549385u^{30} + 0.881518u^{29} + \dots - 1.41104u + 2.02754 \\ 0.454238u^{30} - 0.772609u^{29} + \dots + 0.861654u - 0.695408 \end{pmatrix} \\ a_{11} &= \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix} \\ a_2 &= \begin{pmatrix} -0.222511u^{30} + 0.978508u^{29} + \dots - 2.10042u + 2.65064 \\ 0.713966u^{30} - 1.10192u^{29} + \dots + 2.28533u - 1.27168 \end{pmatrix} \\ a_9 &= \begin{pmatrix} 0.400492u^{30} - 0.295551u^{29} + \dots - 3.68422u + 2.01348 \\ 0.987830u^{30} - 1.78027u^{29} + \dots + 6.06348u - 2.16930 \end{pmatrix} \\ a_1 &= \begin{pmatrix} 0.491456u^{30} - 0.123412u^{29} + \dots + 0.184905u + 1.37896 \\ 0.713966u^{30} - 1.10192u^{29} + \dots + 2.28533u - 1.27168 \end{pmatrix} \\ a_5 &= \begin{pmatrix} 2.35112u^{30} - 2.14216u^{29} + \dots + 6.17496u - 0.993465 \\ 0.995518u^{30} - 0.205887u^{29} + \dots + 4.36460u + 0.609450 \end{pmatrix} \\ a_6 &= \begin{pmatrix} 1.63972u^{30} - 1.94514u^{29} + \dots + 3.71889u - 1.79387 \\ 1.69270u^{30} - 0.224587u^{29} + \dots + 6.10926u + 0.895478 \end{pmatrix} \\ a_{12} &= \begin{pmatrix} 0.0447065u^{30} + 0.378481u^{29} + \dots + 3.07225u - 0.126197 \\ -0.332133u^{30} + 0.427280u^{29} + \dots - 2.02754u + 0.549385 \end{pmatrix} \\ a_7 &= \begin{pmatrix} -0.126197u^{30} + 0.170904u^{29} + \dots - 1.53724u + 2.07225 \\ 0.549385u^{30} - 0.881518u^{29} + \dots + 1.41104u - 1.02754 \end{pmatrix} \end{aligned}$$

(ii) Obstruction class = -1

$$\text{(iii) Cusp Shapes} = -\frac{10502766013328767806}{4832454620042859899} u^{30} + \frac{9053641948115436650}{4832454620042859899} u^{29} + \dots - \frac{13369065530498617863}{4832454620042859899} u - \frac{55516682932002117692}{4832454620042859899}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{31} + 13u^{30} + \dots - 5076u - 1296$
c_2, c_8	$u^{31} - u^{30} + \dots - 54u + 36$
c_3, c_7, c_{10} c_{11}	$u^{31} + u^{30} + \dots - 4u^2 + 1$
c_4, c_6, c_9 c_{12}	$u^{31} - 2u^{30} + \dots + 3u + 1$
c_5	$u^{31} + 6u^{30} + \dots + 6656u + 1024$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{31} + 13y^{30} + \dots + 17064432y - 1679616$
c_2, c_8	$y^{31} + 13y^{30} + \dots - 5076y - 1296$
c_3, c_7, c_{10} c_{11}	$y^{31} - 11y^{30} + \dots + 8y - 1$
c_4, c_6, c_9 c_{12}	$y^{31} + 18y^{30} + \dots + 13y - 1$
c_5	$y^{31} + 2y^{30} + \dots - 1310720y - 1048576$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.904739 + 0.291878I$ $a = 0.65346 - 1.50562I$ $b = -0.702786 + 0.584481I$	$-3.78119 + 0.29851I$	$-10.04466 - 5.69317I$
$u = -0.904739 - 0.291878I$ $a = 0.65346 + 1.50562I$ $b = -0.702786 - 0.584481I$	$-3.78119 - 0.29851I$	$-10.04466 + 5.69317I$
$u = -1.023540 + 0.276276I$ $a = -1.127830 + 0.645457I$ $b = 0.426119 + 1.184880I$	$-4.48013 + 3.96005I$	$-9.16910 - 4.26747I$
$u = -1.023540 - 0.276276I$ $a = -1.127830 - 0.645457I$ $b = 0.426119 - 1.184880I$	$-4.48013 - 3.96005I$	$-9.16910 + 4.26747I$
$u = 1.005490 + 0.429232I$ $a = 2.30114 + 0.46275I$ $b = -0.624836 + 1.042950I$	$-5.18236 - 5.45253I$	$-10.41007 + 8.28014I$
$u = 1.005490 - 0.429232I$ $a = 2.30114 - 0.46275I$ $b = -0.624836 - 1.042950I$	$-5.18236 + 5.45253I$	$-10.41007 - 8.28014I$
$u = 1.059200 + 0.322674I$ $a = -0.92727 - 1.08013I$ $b = 0.70406 - 1.33659I$	$1.36245 - 7.78965I$	$-7.00543 + 8.80272I$
$u = 1.059200 - 0.322674I$ $a = -0.92727 + 1.08013I$ $b = 0.70406 + 1.33659I$	$1.36245 + 7.78965I$	$-7.00543 - 8.80272I$
$u = 0.796557 + 0.316743I$ $a = -1.160500 - 0.402760I$ $b = 1.20965 - 0.90259I$	$5.08416 - 5.15512I$	$-3.79747 + 9.54392I$
$u = 0.796557 - 0.316743I$ $a = -1.160500 + 0.402760I$ $b = 1.20965 + 0.90259I$	$5.08416 + 5.15512I$	$-3.79747 - 9.54392I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.667071 + 0.461492I$ $a = 0.280234 + 0.536083I$ $b = 0.882837 + 0.031450I$	$5.33055 + 1.69004I$	$-1.97215 - 4.21413I$
$u = -0.667071 - 0.461492I$ $a = 0.280234 - 0.536083I$ $b = 0.882837 - 0.031450I$	$5.33055 - 1.69004I$	$-1.97215 + 4.21413I$
$u = 1.195060 + 0.171054I$ $a = -0.520257 - 1.094170I$ $b = -0.159112 - 1.058030I$	$-8.22893 + 0.97469I$	$-16.7057 - 1.4101I$
$u = 1.195060 - 0.171054I$ $a = -0.520257 + 1.094170I$ $b = -0.159112 + 1.058030I$	$-8.22893 - 0.97469I$	$-16.7057 + 1.4101I$
$u = 0.740357$ $a = -0.402635$ $b = 0.633812$	-1.21453	-8.10490
$u = -1.188210 + 0.435471I$ $a = -0.401213 + 0.319230I$ $b = 0.01900 + 1.52100I$	$-4.40480 + 9.52849I$	$-10.46510 - 9.09050I$
$u = -1.188210 - 0.435471I$ $a = -0.401213 - 0.319230I$ $b = 0.01900 - 1.52100I$	$-4.40480 - 9.52849I$	$-10.46510 + 9.09050I$
$u = -0.666570 + 1.157020I$ $a = 1.379760 - 0.003498I$ $b = -0.724812 - 0.579148I$	$7.48792 - 0.22792I$	$-1.69345 + 0.87575I$
$u = -0.666570 - 1.157020I$ $a = 1.379760 + 0.003498I$ $b = -0.724812 + 0.579148I$	$7.48792 + 0.22792I$	$-1.69345 - 0.87575I$
$u = 0.268926 + 1.349580I$ $a = 1.164290 - 0.318035I$ $b = -0.220775 + 0.993543I$	$3.13273 - 0.69529I$	$-3.01718 - 5.31456I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.268926 - 1.349580I$		
$a = 1.164290 + 0.318035I$	$3.13273 + 0.69529I$	$-3.01718 + 5.31456I$
$b = -0.220775 - 0.993543I$		
$u = 1.202140 + 0.675507I$		
$a = 0.715667 + 0.660411I$	$3.20086 - 13.35560I$	$-6.05212 + 7.56492I$
$b = -1.069400 - 0.469167I$		
$u = 1.202140 - 0.675507I$		
$a = 0.715667 - 0.660411I$	$3.20086 + 13.35560I$	$-6.05212 - 7.56492I$
$b = -1.069400 + 0.469167I$		
$u = 0.63713 + 1.30118I$		
$a = 0.964989 + 0.428697I$	$6.10362 + 5.43386I$	$-5.40395 - 7.12702I$
$b = -0.630715 - 1.038540I$		
$u = 0.63713 - 1.30118I$		
$a = 0.964989 - 0.428697I$	$6.10362 - 5.43386I$	$-5.40395 + 7.12702I$
$b = -0.630715 + 1.038540I$		
$u = -1.28784 + 0.72177I$		
$a = 1.60965 - 0.43290I$	$0.9302 + 19.7770I$	$-8.22431 - 10.67419I$
$b = -0.720905 - 1.192920I$		
$u = -1.28784 - 0.72177I$		
$a = 1.60965 + 0.43290I$	$0.9302 - 19.7770I$	$-8.22431 + 10.67419I$
$b = -0.720905 + 1.192920I$		
$u = -0.445478 + 0.168753I$		
$a = 0.072282 + 1.197850I$	$5.19711 - 2.48842I$	$-5.94667 - 0.27240I$
$b = 0.950130 - 0.854767I$		
$u = -0.445478 - 0.168753I$		
$a = 0.072282 - 1.197850I$	$5.19711 + 2.48842I$	$-5.94667 + 0.27240I$
$b = 0.950130 + 0.854767I$		
$u = 0.148770 + 0.313871I$		
$a = 1.196920 - 0.605935I$	$-0.452805 - 0.851501I$	$-9.04017 + 7.90614I$
$b = -0.155369 + 0.670608I$		

	Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u =$	$0.148770 - 0.313871I$		
$a =$	$1.196920 + 0.605935I$	$-0.452805 + 0.851501I$	$-9.04017 - 7.90614I$
$b =$	$-0.155369 - 0.670608I$		

$$\text{II. } I_2^u = \langle 6.81 \times 10^{282} u^{103} + 3.29 \times 10^{282} u^{102} + \dots + 2.47 \times 10^{283} b + 2.22 \times 10^{285}, 4.11 \times 10^{284} u^{103} + 2.15 \times 10^{284} u^{102} + \dots + 1.48 \times 10^{285} a + 1.58 \times 10^{287}, u^{104} + u^{103} + \dots + 1113u + 179 \rangle$$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.278857u^{103} - 0.145771u^{102} + \dots - 444.690u - 107.339 \\ -0.275449u^{103} - 0.133181u^{102} + \dots - 387.865u - 89.8105 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.138599u^{103} + 0.0628452u^{102} + \dots + 203.354u + 43.1149 \\ 0.379465u^{103} + 0.164274u^{102} + \dots + 515.620u + 114.775 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.527518u^{103} + 0.240212u^{102} + \dots + 759.866u + 172.400 \\ -0.118601u^{103} - 0.0345118u^{102} + \dots - 119.986u - 23.6052 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.518063u^{103} + 0.227119u^{102} + \dots + 718.974u + 157.890 \\ 0.379465u^{103} + 0.164274u^{102} + \dots + 515.620u + 114.775 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.742309u^{103} - 0.317728u^{102} + \dots - 1025.35u - 229.236 \\ -0.250029u^{103} - 0.127595u^{102} + \dots - 348.210u - 80.6180 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.507770u^{103} - 0.207804u^{102} + \dots - 709.952u - 157.194 \\ -0.407976u^{103} - 0.200416u^{102} + \dots - 566.896u - 130.354 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.759797u^{103} + 0.363025u^{102} + \dots + 1108.90u + 249.762 \\ 0.253134u^{103} + 0.111697u^{102} + \dots + 369.260u + 82.3263 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.425454u^{103} + 0.132471u^{102} + \dots + 517.181u + 106.621 \\ 0.273070u^{103} + 0.109295u^{102} + \dots + 376.488u + 83.1111 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = $-0.410905u^{103} - 0.0915954u^{102} + \dots - 435.964u - 92.7804$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{52} + 22u^{51} + \dots + 7092u + 1296)^2$
c_2, c_8	$(u^{52} - 6u^{51} + \dots - 222u + 36)^2$
c_3, c_7, c_{10} c_{11}	$u^{104} - u^{103} + \dots - 1113u + 179$
c_4, c_6, c_9 c_{12}	$u^{104} - 2u^{103} + \dots - 854u + 101$
c_5	$(u^{52} - 2u^{51} + \dots - 2u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{52} + 22y^{51} + \dots - 195696y + 1679616)^2$
c_2, c_8	$(y^{52} + 22y^{51} + \dots + 7092y + 1296)^2$
c_3, c_7, c_{10} c_{11}	$y^{104} - 59y^{103} + \dots - 398901y + 32041$
c_4, c_6, c_9 c_{12}	$y^{104} + 68y^{103} + \dots + 541870y + 10201$
c_5	$(y^{52} + 2y^{51} + \dots + 88y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.102845 + 0.986526I$ $a = 1.152070 - 0.336899I$ $b = -0.679085 + 0.979076I$	$0.92368 - 7.36867I$	0
$u = -0.102845 - 0.986526I$ $a = 1.152070 + 0.336899I$ $b = -0.679085 - 0.979076I$	$0.92368 + 7.36867I$	0
$u = -0.895609 + 0.412250I$ $a = 0.900813 - 0.074076I$ $b = -1.156730 - 0.485977I$	$4.71477 + 1.98139I$	0
$u = -0.895609 - 0.412250I$ $a = 0.900813 + 0.074076I$ $b = -1.156730 + 0.485977I$	$4.71477 - 1.98139I$	0
$u = -0.289820 + 0.982689I$ $a = -0.811227 - 0.072611I$ $b = 0.567925 + 0.761675I$	$4.01439 + 2.26335I$	0
$u = -0.289820 - 0.982689I$ $a = -0.811227 + 0.072611I$ $b = 0.567925 - 0.761675I$	$4.01439 - 2.26335I$	0
$u = 0.874210 + 0.400885I$ $a = -0.095639 + 0.534519I$ $b = -1.156730 - 0.485977I$	$4.71477 + 1.98139I$	0
$u = 0.874210 - 0.400885I$ $a = -0.095639 - 0.534519I$ $b = -1.156730 + 0.485977I$	$4.71477 - 1.98139I$	0
$u = 1.032780 + 0.202468I$ $a = 0.580411 - 1.029680I$ $b = -0.244589 - 1.108580I$	$-2.04183 - 0.59281I$	0
$u = 1.032780 - 0.202468I$ $a = 0.580411 + 1.029680I$ $b = -0.244589 + 1.108580I$	$-2.04183 + 0.59281I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.722154 + 0.603978I$ $a = 1.50477 + 0.76745I$ $b = -0.713966 - 0.905612I$	$4.55373 + 6.92827I$	0
$u = -0.722154 - 0.603978I$ $a = 1.50477 - 0.76745I$ $b = -0.713966 + 0.905612I$	$4.55373 - 6.92827I$	0
$u = 0.998184 + 0.358526I$ $a = -0.697910 - 0.237940I$ $b = 0.819922$	-1.26420	0
$u = 0.998184 - 0.358526I$ $a = -0.697910 + 0.237940I$ $b = 0.819922$	-1.26420	0
$u = 0.289618 + 0.878855I$ $a = 1.273880 - 0.233717I$ $b = -0.762222 + 0.692209I$	$1.80098 + 1.90056I$	0
$u = 0.289618 - 0.878855I$ $a = 1.273880 + 0.233717I$ $b = -0.762222 - 0.692209I$	$1.80098 - 1.90056I$	0
$u = 0.196990 + 0.894165I$ $a = -0.76496 - 1.35196I$ $b = 0.037214 + 1.116100I$	$-0.48936 - 5.43427I$	0
$u = 0.196990 - 0.894165I$ $a = -0.76496 + 1.35196I$ $b = 0.037214 - 1.116100I$	$-0.48936 + 5.43427I$	0
$u = -1.061790 + 0.300527I$ $a = 0.023114 - 1.136220I$ $b = 0.073870 - 1.235250I$	$-6.67841 + 5.00577I$	0
$u = -1.061790 - 0.300527I$ $a = 0.023114 + 1.136220I$ $b = 0.073870 + 1.235250I$	$-6.67841 - 5.00577I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.014560 + 0.437960I$ $a = 1.86019 - 1.47654I$ $b = -0.713966 - 0.905612I$	$4.55373 + 6.92827I$	0
$u = -1.014560 - 0.437960I$ $a = 1.86019 + 1.47654I$ $b = -0.713966 + 0.905612I$	$4.55373 - 6.92827I$	0
$u = -0.134840 + 0.878343I$ $a = 0.309334 - 0.753555I$ $b = -0.244589 + 1.108580I$	$-2.04183 + 0.59281I$	$-8.00000 + 0.I$
$u = -0.134840 - 0.878343I$ $a = 0.309334 + 0.753555I$ $b = -0.244589 - 1.108580I$	$-2.04183 - 0.59281I$	$-8.00000 + 0.I$
$u = 0.902711 + 0.651850I$ $a = 0.720986 + 0.445018I$ $b = -0.649638 + 0.235121I$	$-1.38772 - 4.38785I$	0
$u = 0.902711 - 0.651850I$ $a = 0.720986 - 0.445018I$ $b = -0.649638 - 0.235121I$	$-1.38772 + 4.38785I$	0
$u = 0.975998 + 0.583484I$ $a = 0.004335 + 1.068440I$ $b = -0.770308 - 0.842569I$	$4.77173 - 1.29519I$	0
$u = 0.975998 - 0.583484I$ $a = 0.004335 - 1.068440I$ $b = -0.770308 + 0.842569I$	$4.77173 + 1.29519I$	0
$u = 0.748068 + 0.859406I$ $a = 0.800339 + 1.074350I$ $b = -0.327524 - 0.686330I$	$-2.49314 - 4.00946I$	0
$u = 0.748068 - 0.859406I$ $a = 0.800339 - 1.074350I$ $b = -0.327524 + 0.686330I$	$-2.49314 + 4.00946I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.434237 + 1.057630I$ $a = -1.52364 - 0.11098I$ $b = 0.883774 - 0.518629I$	$5.65528 + 7.13741I$	0
$u = 0.434237 - 1.057630I$ $a = -1.52364 + 0.11098I$ $b = 0.883774 + 0.518629I$	$5.65528 - 7.13741I$	0
$u = -0.980062 + 0.615305I$ $a = 0.047671 + 0.182111I$ $b = -0.423320 + 1.145930I$	$-4.25004 + 0.23491I$	0
$u = -0.980062 - 0.615305I$ $a = 0.047671 - 0.182111I$ $b = -0.423320 - 1.145930I$	$-4.25004 - 0.23491I$	0
$u = 0.334120 + 0.773008I$ $a = 1.40358 + 1.52546I$ $b = -0.539106 - 1.066420I$	$-0.13905 + 7.75829I$	$-8.00000 - 5.56536I$
$u = 0.334120 - 0.773008I$ $a = 1.40358 - 1.52546I$ $b = -0.539106 + 1.066420I$	$-0.13905 - 7.75829I$	$-8.00000 + 5.56536I$
$u = 1.046770 + 0.497215I$ $a = 0.791526 + 0.842867I$ $b = -0.762222 - 0.692209I$	$1.80098 - 1.90056I$	0
$u = 1.046770 - 0.497215I$ $a = 0.791526 - 0.842867I$ $b = -0.762222 + 0.692209I$	$1.80098 + 1.90056I$	0
$u = -1.119360 + 0.356705I$ $a = 1.22102 - 0.85606I$ $b = -0.91575 - 1.13866I$	$2.84057 + 5.30163I$	0
$u = -1.119360 - 0.356705I$ $a = 1.22102 + 0.85606I$ $b = -0.91575 + 1.13866I$	$2.84057 - 5.30163I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.721814 + 0.398847I$ $a = 1.72578 + 0.44649I$ $b = -0.770308 - 0.842569I$	$4.77173 - 1.29519I$	$-6.57252 + 4.54515I$
$u = 0.721814 - 0.398847I$ $a = 1.72578 - 0.44649I$ $b = -0.770308 + 0.842569I$	$4.77173 + 1.29519I$	$-6.57252 - 4.54515I$
$u = 0.802326 + 0.169310I$ $a = -0.492490 - 0.106042I$ $b = 0.680281$	-1.20551	$-8.00000 + 0.I$
$u = 0.802326 - 0.169310I$ $a = -0.492490 + 0.106042I$ $b = 0.680281$	-1.20551	$-8.00000 + 0.I$
$u = -1.099200 + 0.460843I$ $a = -0.910873 + 0.992427I$ $b = 0.855566 - 0.509496I$	$-0.71762 + 7.20372I$	0
$u = -1.099200 - 0.460843I$ $a = -0.910873 - 0.992427I$ $b = 0.855566 + 0.509496I$	$-0.71762 - 7.20372I$	0
$u = -1.194500 + 0.031721I$ $a = 1.182540 - 0.474576I$ $b = -0.649638 + 0.235121I$	$-1.38772 - 4.38785I$	0
$u = -1.194500 - 0.031721I$ $a = 1.182540 + 0.474576I$ $b = -0.649638 - 0.235121I$	$-1.38772 + 4.38785I$	0
$u = 0.612226 + 0.510027I$ $a = -1.97383 + 0.36189I$ $b = 0.866328 - 0.908971I$	$5.88425 - 3.20070I$	$-2.16616 + 0.89919I$
$u = 0.612226 - 0.510027I$ $a = -1.97383 - 0.36189I$ $b = 0.866328 + 0.908971I$	$5.88425 + 3.20070I$	$-2.16616 - 0.89919I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.043950 + 0.601459I$ $a = 0.360306 - 0.207444I$ $b = -0.653736 + 0.265939I$	$2.01949 + 3.27741I$	0
$u = -1.043950 - 0.601459I$ $a = 0.360306 + 0.207444I$ $b = -0.653736 - 0.265939I$	$2.01949 - 3.27741I$	0
$u = -1.211760 + 0.175745I$ $a = -0.697257 + 1.066010I$ $b = 0.248597 + 0.964510I$	$-4.34575 + 2.86126I$	0
$u = -1.211760 - 0.175745I$ $a = -0.697257 - 1.066010I$ $b = 0.248597 - 0.964510I$	$-4.34575 - 2.86126I$	0
$u = -1.244220 + 0.184328I$ $a = -0.537397 - 0.339553I$ $b = 0.443016 - 1.223900I$	$-4.94120 - 4.54649I$	0
$u = -1.244220 - 0.184328I$ $a = -0.537397 + 0.339553I$ $b = 0.443016 + 1.223900I$	$-4.94120 + 4.54649I$	0
$u = -0.593600 + 0.440238I$ $a = -1.42250 + 1.05012I$ $b = 0.866328 - 0.908971I$	$5.88425 - 3.20070I$	$-2.16616 + 0.89919I$
$u = -0.593600 - 0.440238I$ $a = -1.42250 - 1.05012I$ $b = 0.866328 + 0.908971I$	$5.88425 + 3.20070I$	$-2.16616 - 0.89919I$
$u = -0.972857 + 0.815922I$ $a = 1.90153 - 0.46848I$ $b = -0.478202 - 1.054340I$	$-4.00386 + 7.55816I$	0
$u = -0.972857 - 0.815922I$ $a = 1.90153 + 0.46848I$ $b = -0.478202 + 1.054340I$	$-4.00386 - 7.55816I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.141660 + 0.581775I$ $a = -1.99002 - 0.20402I$ $b = 0.670725 - 1.105940I$	$-2.52024 - 12.89480I$	0
$u = 1.141660 - 0.581775I$ $a = -1.99002 + 0.20402I$ $b = 0.670725 + 1.105940I$	$-2.52024 + 12.89480I$	0
$u = 1.140890 + 0.584969I$ $a = -0.339649 - 0.579400I$ $b = 0.855566 + 0.509496I$	$-0.71762 - 7.20372I$	0
$u = 1.140890 - 0.584969I$ $a = -0.339649 + 0.579400I$ $b = 0.855566 - 0.509496I$	$-0.71762 + 7.20372I$	0
$u = 0.684343 + 0.206798I$ $a = 0.521770 + 0.152717I$ $b = -0.91575 - 1.13866I$	$2.84057 + 5.30163I$	$-7.85801 + 1.01717I$
$u = 0.684343 - 0.206798I$ $a = 0.521770 - 0.152717I$ $b = -0.91575 + 1.13866I$	$2.84057 - 5.30163I$	$-7.85801 - 1.01717I$
$u = -0.383891 + 1.239540I$ $a = -0.996825 + 0.585339I$ $b = 0.671974 - 1.108810I$	$3.84347 - 12.89570I$	0
$u = -0.383891 - 1.239540I$ $a = -0.996825 - 0.585339I$ $b = 0.671974 + 1.108810I$	$3.84347 + 12.89570I$	0
$u = -1.166690 + 0.569532I$ $a = 1.82870 - 0.28405I$ $b = -0.679085 - 0.979076I$	$0.92368 + 7.36867I$	0
$u = -1.166690 - 0.569532I$ $a = 1.82870 + 0.28405I$ $b = -0.679085 + 0.979076I$	$0.92368 - 7.36867I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.117430 + 0.729568I$ $a = -0.260752 - 0.387052I$ $b = -0.301144 + 0.693334I$	$1.79885 + 3.99008I$	0
$u = -1.117430 - 0.729568I$ $a = -0.260752 + 0.387052I$ $b = -0.301144 - 0.693334I$	$1.79885 - 3.99008I$	0
$u = 0.045675 + 0.662245I$ $a = -2.29878 + 1.46807I$ $b = 0.567925 - 0.761675I$	$4.01439 - 2.26335I$	$-4.34155 + 5.25549I$
$u = 0.045675 - 0.662245I$ $a = -2.29878 - 1.46807I$ $b = 0.567925 + 0.761675I$	$4.01439 + 2.26335I$	$-4.34155 - 5.25549I$
$u = -1.192030 + 0.614794I$ $a = -1.252570 + 0.434769I$ $b = 0.443016 + 1.223900I$	$-4.94120 + 4.54649I$	0
$u = -1.192030 - 0.614794I$ $a = -1.252570 - 0.434769I$ $b = 0.443016 - 1.223900I$	$-4.94120 - 4.54649I$	0
$u = 1.226470 + 0.560558I$ $a = 0.131618 + 0.653166I$ $b = 0.037214 + 1.116100I$	$-0.48936 - 5.43427I$	0
$u = 1.226470 - 0.560558I$ $a = 0.131618 - 0.653166I$ $b = 0.037214 - 1.116100I$	$-0.48936 + 5.43427I$	0
$u = 1.295390 + 0.424903I$ $a = 1.353430 + 0.074875I$ $b = -0.423320 + 1.145930I$	$-4.25004 + 0.23491I$	0
$u = 1.295390 - 0.424903I$ $a = 1.353430 - 0.074875I$ $b = -0.423320 - 1.145930I$	$-4.25004 - 0.23491I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.041349 + 0.626266I$ $a = 1.90603 + 1.22179I$ $b = -0.653736 - 0.265939I$	$2.01949 - 3.27741I$	$-3.11199 + 1.77350I$
$u = -0.041349 - 0.626266I$ $a = 1.90603 - 1.22179I$ $b = -0.653736 + 0.265939I$	$2.01949 + 3.27741I$	$-3.11199 - 1.77350I$
$u = 1.326420 + 0.359373I$ $a = 0.551420 + 0.312235I$ $b = 0.073870 + 1.235250I$	$-6.67841 - 5.00577I$	0
$u = 1.326420 - 0.359373I$ $a = 0.551420 - 0.312235I$ $b = 0.073870 - 1.235250I$	$-6.67841 + 5.00577I$	0
$u = -1.253890 + 0.572111I$ $a = -1.49618 + 0.78283I$ $b = 0.670725 + 1.105940I$	$-2.52024 + 12.89480I$	0
$u = -1.253890 - 0.572111I$ $a = -1.49618 - 0.78283I$ $b = 0.670725 - 1.105940I$	$-2.52024 - 12.89480I$	0
$u = -0.607530 + 0.100261I$ $a = 4.30314 - 3.15216I$ $b = -0.301144 - 0.693334I$	$1.79885 - 3.99008I$	$-11.95183 - 3.89656I$
$u = -0.607530 - 0.100261I$ $a = 4.30314 + 3.15216I$ $b = -0.301144 + 0.693334I$	$1.79885 + 3.99008I$	$-11.95183 + 3.89656I$
$u = 1.268700 + 0.558221I$ $a = 1.21224 + 0.85304I$ $b = -0.539106 + 1.066420I$	$-0.13905 - 7.75829I$	0
$u = 1.268700 - 0.558221I$ $a = 1.21224 - 0.85304I$ $b = -0.539106 - 1.066420I$	$-0.13905 + 7.75829I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.322080 + 0.463901I$ $a = 0.775597 + 0.493532I$ $b = -0.453771 + 1.302660I$	$-0.99839 - 6.78751I$	0
$u = 1.322080 - 0.463901I$ $a = 0.775597 - 0.493532I$ $b = -0.453771 - 1.302660I$	$-0.99839 + 6.78751I$	0
$u = -1.180370 + 0.771323I$ $a = -0.707864 + 0.647021I$ $b = 0.883774 - 0.518629I$	$5.65528 + 7.13741I$	0
$u = -1.180370 - 0.771323I$ $a = -0.707864 - 0.647021I$ $b = 0.883774 + 0.518629I$	$5.65528 - 7.13741I$	0
$u = -0.548467 + 0.044788I$ $a = 1.17874 - 3.02344I$ $b = -0.453771 - 1.302660I$	$-0.99839 + 6.78751I$	$-6.07550 - 0.00937I$
$u = -0.548467 - 0.044788I$ $a = 1.17874 + 3.02344I$ $b = -0.453771 + 1.302660I$	$-0.99839 - 6.78751I$	$-6.07550 + 0.00937I$
$u = 1.26837 + 0.80392I$ $a = -1.63403 - 0.42395I$ $b = 0.671974 - 1.108810I$	$3.84347 - 12.89570I$	0
$u = 1.26837 - 0.80392I$ $a = -1.63403 + 0.42395I$ $b = 0.671974 + 1.108810I$	$3.84347 + 12.89570I$	0
$u = -1.54109 + 0.22738I$ $a = 0.291738 + 0.789229I$ $b = -0.327524 + 0.686330I$	$-2.49314 + 4.00946I$	0
$u = -1.54109 - 0.22738I$ $a = 0.291738 - 0.789229I$ $b = -0.327524 - 0.686330I$	$-2.49314 - 4.00946I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.66116 + 0.03445I$		
$a = 0.397291 - 0.311952I$	$-4.00386 + 7.55816I$	0
$b = -0.478202 - 1.054340I$		
$u = 1.66116 - 0.03445I$		
$a = 0.397291 + 0.311952I$	$-4.00386 - 7.55816I$	0
$b = -0.478202 + 1.054340I$		
$u = -0.137331 + 0.227372I$		
$a = 0.65218 - 1.64356I$	$-4.34575 - 2.86126I$	$-14.9194 + 5.6525I$
$b = 0.248597 - 0.964510I$		
$u = -0.137331 - 0.227372I$		
$a = 0.65218 + 1.64356I$	$-4.34575 + 2.86126I$	$-14.9194 - 5.6525I$
$b = 0.248597 + 0.964510I$		

III.

$$I_3^u = \langle 2.88 \times 10^{16} u^{39} + 2.47 \times 10^{16} u^{38} + \dots + 5.40 \times 10^{14} b - 1.88 \times 10^{16}, 5.04 \times 10^{15} u^{39} - 1.85 \times 10^{15} u^{38} + \dots + 4.91 \times 10^{13} a + 5.20 \times 10^{15}, u^{40} - 13u^{38} + \dots + u + 1 \rangle$$

(i) Arc colorings

$$\begin{aligned} a_3 &= \begin{pmatrix} 1 \\ 0 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} 0 \\ u \end{pmatrix} \\ a_4 &= \begin{pmatrix} 1 \\ u^2 \end{pmatrix} \\ a_8 &= \begin{pmatrix} -102.688u^{39} + 37.7644u^{38} + \dots + 123.687u - 105.951 \\ -53.3826u^{39} - 45.7958u^{38} + \dots + 154.242u + 34.8899 \end{pmatrix} \\ a_{11} &= \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix} \\ a_2 &= \begin{pmatrix} 23.4545u^{39} + 10.0606u^{38} + \dots - 97.9184u - 124.580 \\ 88.4793u^{39} - 130.550u^{38} + \dots - 95.5678u + 260.797 \end{pmatrix} \\ a_9 &= \begin{pmatrix} 94.6296u^{39} - 22.3052u^{38} + \dots - 129.156u + 53.8107 \\ -118.215u^{39} + 7.52827u^{38} + \dots + 19.5197u - 126.477 \end{pmatrix} \\ a_1 &= \begin{pmatrix} 111.934u^{39} - 120.489u^{38} + \dots - 193.486u + 136.217 \\ 88.4793u^{39} - 130.550u^{38} + \dots - 95.5678u + 260.797 \end{pmatrix} \\ a_5 &= \begin{pmatrix} -116.925u^{39} + 13.4192u^{38} + \dots + 222.814u - 49.2814 \\ -4.54813u^{39} + 41.3023u^{38} + \dots + 29.8254u - 89.6280 \end{pmatrix} \\ a_6 &= \begin{pmatrix} -94.1953u^{39} + 2.86623u^{38} + \dots + 182.666u - 7.43989 \\ -15.8610u^{39} + 56.1581u^{38} + \dots + 57.7962u - 120.916 \end{pmatrix} \\ a_{12} &= \begin{pmatrix} -41.9674u^{39} - 21.6822u^{38} + \dots - 22.7763u + 4.31586 \\ -126.949u^{39} + 10.4832u^{38} + \dots + 197.913u - 74.7568 \end{pmatrix} \\ a_7 &= \begin{pmatrix} -46.0649u^{39} + 59.8349u^{38} + \dots + 134.934u - 104.640 \\ 124.240u^{39} - 60.7324u^{38} + \dots - 129.631u + 114.774 \end{pmatrix} \end{aligned}$$

(ii) Obstruction class = 1

(iii) Cusp Shapes =

$$-\frac{163221859693865844}{540031743483991} u^{39} + \frac{237015301458847729}{540031743483991} u^{38} + \dots + \frac{123031965042997292}{540031743483991} u - \frac{580439103264460885}{540031743483991}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{20} - 10u^{19} + \dots - 14u + 1)^2$
c_2	$(u^{20} + 5u^{18} + \dots + 7u^2 + 1)^2$
c_3, c_{11}	$u^{40} - 13u^{38} + \dots + u + 1$
c_4, c_9	$u^{40} + 3u^{39} + \dots + 13u^2 + 1$
c_5	$u^{40} + 56u^{34} + \dots - 141720u^2 + 128321$
c_6, c_{12}	$u^{40} - 3u^{39} + \dots + 13u^2 + 1$
c_7, c_{10}	$u^{40} - 13u^{38} + \dots - u + 1$
c_8	$(u^{20} + 5u^{18} + \dots + 7u^2 + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{20} + 10y^{19} + \dots - 6y + 1)^2$
c_2, c_8	$(y^{20} + 10y^{19} + \dots + 14y + 1)^2$
c_3, c_7, c_{10} c_{11}	$y^{40} - 26y^{39} + \dots - 29y + 1$
c_4, c_6, c_9 c_{12}	$y^{40} + 29y^{39} + \dots + 26y + 1$
c_5	$(y^{20} + 56y^{17} + \dots - 141720y + 128321)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.854018 + 0.464184I$ $a = -0.542777 + 0.722282I$ $b = -0.743220 - 0.511653I$	$4.62575 + 0.35522I$	$-6.19616 + 1.21819I$
$u = 0.854018 - 0.464184I$ $a = -0.542777 - 0.722282I$ $b = -0.743220 + 0.511653I$	$4.62575 - 0.35522I$	$-6.19616 - 1.21819I$
$u = -0.685463 + 0.816677I$ $a = 0.568457 - 0.911720I$ $b = -0.123891 + 0.748791I$	$-2.97635 + 4.30562I$	$-16.0544 - 7.4345I$
$u = -0.685463 - 0.816677I$ $a = 0.568457 + 0.911720I$ $b = -0.123891 - 0.748791I$	$-2.97635 - 4.30562I$	$-16.0544 + 7.4345I$
$u = 0.815757 + 0.332932I$ $a = -1.351770 - 0.076566I$ $b = 1.071900 - 0.836081I$	$4.90554 - 3.79001I$	$-7.80691 + 4.95342I$
$u = 0.815757 - 0.332932I$ $a = -1.351770 + 0.076566I$ $b = 1.071900 + 0.836081I$	$4.90554 + 3.79001I$	$-7.80691 - 4.95342I$
$u = 0.835982 + 0.268041I$ $a = -0.555181 - 0.851378I$ $b = 0.433646 + 0.812077I$	$-5.04942 + 1.77007I$	$-17.5948 - 2.0908I$
$u = 0.835982 - 0.268041I$ $a = -0.555181 + 0.851378I$ $b = 0.433646 - 0.812077I$	$-5.04942 - 1.77007I$	$-17.5948 + 2.0908I$
$u = -1.117170 + 0.322020I$ $a = 1.20118 - 0.99970I$ $b = -0.869042 - 1.107020I$	$2.82540 + 5.97720I$	$0. - 9.61899I$
$u = -1.117170 - 0.322020I$ $a = 1.20118 + 0.99970I$ $b = -0.869042 + 1.107020I$	$2.82540 - 5.97720I$	$0. + 9.61899I$

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.037248 + 0.826043I$ $a = 2.52741 + 1.59723I$ $b = -0.430743 - 0.838149I$	$4.79201 + 1.80579I$	$3.52157 - 1.81881I$
$u = 0.037248 - 0.826043I$ $a = 2.52741 - 1.59723I$ $b = -0.430743 + 0.838149I$	$4.79201 - 1.80579I$	$3.52157 + 1.81881I$
$u = -1.176210 + 0.186112I$ $a = -1.32993 + 1.14946I$ $b = 0.433646 + 0.812077I$	$-5.04942 + 1.77007I$	0
$u = -1.176210 - 0.186112I$ $a = -1.32993 - 1.14946I$ $b = 0.433646 - 0.812077I$	$-5.04942 - 1.77007I$	0
$u = 0.726107 + 0.295735I$ $a = -1.63217 - 2.27014I$ $b = 0.452190 - 1.262780I$	$-1.19875 - 7.32970I$	$-11.0543 + 12.2739I$
$u = 0.726107 - 0.295735I$ $a = -1.63217 + 2.27014I$ $b = 0.452190 + 1.262780I$	$-1.19875 + 7.32970I$	$-11.0543 - 12.2739I$
$u = 1.028220 + 0.660995I$ $a = 1.29507 + 0.72228I$ $b = -0.269579 + 1.157740I$	$-4.73788 - 5.97724I$	0
$u = 1.028220 - 0.660995I$ $a = 1.29507 - 0.72228I$ $b = -0.269579 - 1.157740I$	$-4.73788 + 5.97724I$	0
$u = 1.176120 + 0.407437I$ $a = -0.409481 + 0.212734I$ $b = 0.297808 + 0.967308I$	$-5.19899 + 1.23996I$	0
$u = 1.176120 - 0.407437I$ $a = -0.409481 - 0.212734I$ $b = 0.297808 - 0.967308I$	$-5.19899 - 1.23996I$	0

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.208932 + 1.295110I$ $a = 0.575730 - 0.103623I$ $b = -0.430743 + 0.838149I$	$4.79201 - 1.80579I$	0
$u = 0.208932 - 1.295110I$ $a = 0.575730 + 0.103623I$ $b = -0.430743 - 0.838149I$	$4.79201 + 1.80579I$	0
$u = 1.108480 + 0.708142I$ $a = 0.411122 + 0.011766I$ $b = 0.180933 + 0.514277I$	$2.01270 - 4.40791I$	0
$u = 1.108480 - 0.708142I$ $a = 0.411122 - 0.011766I$ $b = 0.180933 - 0.514277I$	$2.01270 + 4.40791I$	0
$u = -0.660772 + 0.106155I$ $a = -0.114626 + 0.950462I$ $b = 1.071900 - 0.836081I$	$4.90554 - 3.79001I$	$-7.80691 + 4.95342I$
$u = -0.660772 - 0.106155I$ $a = -0.114626 - 0.950462I$ $b = 1.071900 + 0.836081I$	$4.90554 + 3.79001I$	$-7.80691 - 4.95342I$
$u = -1.270490 + 0.496547I$ $a = -1.312060 + 0.288118I$ $b = 0.297808 + 0.967308I$	$-5.19899 + 1.23996I$	0
$u = -1.270490 - 0.496547I$ $a = -1.312060 - 0.288118I$ $b = 0.297808 - 0.967308I$	$-5.19899 - 1.23996I$	0
$u = 0.563923 + 0.256895I$ $a = -0.531115 - 1.075650I$ $b = -0.743220 + 0.511653I$	$4.62575 - 0.35522I$	$-6.19616 - 1.21819I$
$u = 0.563923 - 0.256895I$ $a = -0.531115 + 1.075650I$ $b = -0.743220 - 0.511653I$	$4.62575 + 0.35522I$	$-6.19616 + 1.21819I$

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.602461 + 0.070349I$ $a = 1.34248 - 0.64273I$ $b = -0.869042 - 1.107020I$	$2.82540 + 5.97720I$	$-8.53563 - 9.61899I$
$u = -0.602461 - 0.070349I$ $a = 1.34248 + 0.64273I$ $b = -0.869042 + 1.107020I$	$2.82540 - 5.97720I$	$-8.53563 + 9.61899I$
$u = -1.35990 + 0.40030I$ $a = -0.643683 + 0.517695I$ $b = 0.452190 + 1.262780I$	$-1.19875 + 7.32970I$	0
$u = -1.35990 - 0.40030I$ $a = -0.643683 - 0.517695I$ $b = 0.452190 - 1.262780I$	$-1.19875 - 7.32970I$	0
$u = 1.42905 + 0.08950I$ $a = 0.595484 + 0.144916I$ $b = -0.269579 + 1.157740I$	$-4.73788 - 5.97724I$	0
$u = 1.42905 - 0.08950I$ $a = 0.595484 - 0.144916I$ $b = -0.269579 - 1.157740I$	$-4.73788 + 5.97724I$	0
$u = -1.43398 + 0.21210I$ $a = 0.444256 + 1.038960I$ $b = -0.123891 + 0.748791I$	$-2.97635 + 4.30562I$	0
$u = -1.43398 - 0.21210I$ $a = 0.444256 - 1.038960I$ $b = -0.123891 - 0.748791I$	$-2.97635 - 4.30562I$	0
$u = -0.477388 + 0.216837I$ $a = 2.46160 + 4.64703I$ $b = 0.180933 - 0.514277I$	$2.01270 + 4.40791I$	$-3.71756 - 11.02130I$
$u = -0.477388 - 0.216837I$ $a = 2.46160 - 4.64703I$ $b = 0.180933 + 0.514277I$	$2.01270 - 4.40791I$	$-3.71756 + 11.02130I$

$$\text{IV. } J_4^u = \langle -u^5 - u^3 + u^2 + b + u, u^7 - u^6 + 2u^5 - 3u^4 - u^2 + a - u + 2, u^8 + u^6 - u^5 - 2u^4 + u + 1 \rangle$$

(i) Arc colorings

$$\begin{aligned} a_3 &= \begin{pmatrix} 1 \\ 0 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} 0 \\ u \end{pmatrix} \\ a_4 &= \begin{pmatrix} 1 \\ u^2 \end{pmatrix} \\ a_8 &= \begin{pmatrix} -u^7 + u^6 - 2u^5 + 3u^4 + u^2 + u - 2 \\ u^5 + u^3 - u^2 - u \end{pmatrix} \\ a_{11} &= \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix} \\ a_2 &= \begin{pmatrix} 2u^7 + 2u^5 - 2u^4 - 3u^3 + 2 \\ -u^7 - u^5 + u^4 + u^3 - u - 1 \end{pmatrix} \\ a_9 &= \begin{pmatrix} -u^7 + u^6 - 2u^5 + 2u^4 - u^2 + 2u - 1 \\ -u^6 + u^5 - u^4 + 2u^3 + u^2 - u \end{pmatrix} \\ a_1 &= \begin{pmatrix} u^7 + u^5 - u^4 - 2u^3 - u + 1 \\ -u^7 - u^5 + u^4 + u^3 - u - 1 \end{pmatrix} \\ a_5 &= \begin{pmatrix} -u^7 + u^6 - u^5 + 2u^4 + u^3 - 2u^2 - 1 \\ u^7 - u^6 + u^5 - 2u^4 - u^3 + 2u^2 \end{pmatrix} \\ a_6 &= \begin{pmatrix} -u^7 + u^6 - u^5 + 2u^4 + u^3 - 2u^2 - 1 \\ u^7 - u^6 + u^5 - 2u^4 - u^3 + 2u^2 \end{pmatrix} \\ a_{12} &= \begin{pmatrix} 2u^7 - u^6 + 3u^5 - 3u^4 - 2u^3 + u^2 - 3u + 2 \\ -u^7 + u^6 - 2u^5 + 2u^4 - u^3 - u^2 + u - 1 \end{pmatrix} \\ a_7 &= \begin{pmatrix} -2u^7 + 2u^6 - 3u^5 + 5u^4 + u^3 - 2u^2 + u - 4 \\ u^7 - u^6 + 2u^5 - 3u^4 - u + 1 \end{pmatrix} \end{aligned}$$

(ii) Obstruction class = 1

$$\text{(iii) Cusp Shapes} = 2u^7 + 4u^6 + 4u^5 - 2u^4 - 4u^3 - 10u^2 - u - 4$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^8 - 4u^7 + 10u^6 - 16u^5 + 19u^4 - 15u^3 + 8u^2 - 3u + 1$
c_2	$u^8 + 2u^6 + 3u^4 + u^3 + 2u^2 + u + 1$
c_3, c_{11}	$u^8 + u^6 - u^5 - 2u^4 + u + 1$
c_4, c_9	$u^8 + u^7 - 2u^4 - u^3 + u^2 + 1$
c_5	u^8
c_6, c_{12}	$u^8 - u^7 - 2u^4 + u^3 + u^2 + 1$
c_7, c_{10}	$u^8 + u^6 + u^5 - 2u^4 - u + 1$
c_8	$u^8 + 2u^6 + 3u^4 - u^3 + 2u^2 - u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^8 + 4y^7 + 10y^6 + 20y^5 + 19y^4 + 3y^3 + 12y^2 + 7y + 1$
c_2, c_8	$y^8 + 4y^7 + 10y^6 + 16y^5 + 19y^4 + 15y^3 + 8y^2 + 3y + 1$
c_3, c_7, c_{10} c_{11}	$y^8 + 2y^7 - 3y^6 - 5y^5 + 6y^4 + 4y^3 - 4y^2 - y + 1$
c_4, c_6, c_9 c_{12}	$y^8 - y^7 - 4y^6 + 4y^5 + 6y^4 - 5y^3 - 3y^2 + 2y + 1$
c_5	y^8

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.024220 + 0.223225I$		
$a = 1.45783 + 1.08401I$	$-5.60402 - 3.77609I$	$-16.1882 + 2.9305I$
$b = -0.497664 + 1.123000I$		
$u = 1.024220 - 0.223225I$		
$a = 1.45783 - 1.08401I$	$-5.60402 + 3.77609I$	$-16.1882 - 2.9305I$
$b = -0.497664 - 1.123000I$		
$u = -0.085673 + 0.857175I$		
$a = -1.40103 + 0.55770I$	$6.36547 - 2.93267I$	$-0.21388 + 2.83534I$
$b = 0.774658 - 0.904481I$		
$u = -0.085673 - 0.857175I$		
$a = -1.40103 - 0.55770I$	$6.36547 + 2.93267I$	$-0.21388 - 2.83534I$
$b = 0.774658 + 0.904481I$		
$u = -0.789263 + 0.118455I$		
$a = -0.43102 - 1.57027I$	$-3.52853 - 0.48963I$	$-8.65015 + 1.75654I$
$b = -0.516141 + 0.507737I$		
$u = -0.789263 - 0.118455I$		
$a = -0.43102 + 1.57027I$	$-3.52853 + 0.48963I$	$-8.65015 - 1.75654I$
$b = -0.516141 - 0.507737I$		
$u = -0.149281 + 1.379480I$		
$a = -1.125780 - 0.299104I$	$2.76707 + 1.04226I$	$-14.9478 - 4.2014I$
$b = 0.239148 + 0.913430I$		
$u = -0.149281 - 1.379480I$		
$a = -1.125780 + 0.299104I$	$2.76707 - 1.04226I$	$-14.9478 + 4.2014I$
$b = 0.239148 - 0.913430I$		

$$\mathbf{V}. I_5^u = \langle 4.02 \times 10^5 u^{23} + 1.34 \times 10^5 u^{22} + \dots + 8.45 \times 10^5 b - 3.82 \times 10^6, 1.30 \times 10^9 u^{23} + 8.29 \times 10^8 u^{22} + \dots + 9.56 \times 10^8 a - 5.35 \times 10^9, u^{24} - 4u^{22} + \dots - 14u + 4 \rangle$$

(i) Arc colorings

$$\begin{aligned} a_3 &= \begin{pmatrix} 1 \\ 0 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} 0 \\ u \end{pmatrix} \\ a_4 &= \begin{pmatrix} 1 \\ u^2 \end{pmatrix} \\ a_8 &= \begin{pmatrix} -1.35682u^{23} - 0.866980u^{22} + \dots - 18.8198u + 5.60068 \\ -0.476038u^{23} - 0.159161u^{22} + \dots - 6.10638u + 4.51695 \end{pmatrix} \\ a_{11} &= \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix} \\ a_2 &= \begin{pmatrix} 0.680533u^{23} - 0.0955877u^{22} + \dots + 7.93509u - 11.7983 \\ -0.476038u^{23} - 0.159161u^{22} + \dots - 6.10638u + 3.51695 \end{pmatrix} \\ a_9 &= \begin{pmatrix} 0.204495u^{23} - 0.254749u^{22} + \dots + 1.82871u - 8.28134 \\ -0.476038u^{23} - 0.159161u^{22} + \dots - 6.10638u + 3.51695 \end{pmatrix} \\ a_1 &= \begin{pmatrix} 0.204495u^{23} - 0.254749u^{22} + \dots + 1.82871u - 8.28134 \\ -0.476038u^{23} - 0.159161u^{22} + \dots - 6.10638u + 3.51695 \end{pmatrix} \\ a_5 &= \begin{pmatrix} 1.82096u^{23} + 1.09707u^{22} + \dots + 25.9792u - 13.8916 \\ -0.0221995u^{23} - 0.164055u^{22} + \dots - 0.604064u - 1.04903 \end{pmatrix} \\ a_6 &= \begin{pmatrix} 1.57779u^{23} + 0.899999u^{22} + \dots + 22.0974u - 11.2707 \\ 0.184281u^{23} - 0.00847915u^{22} + \dots + 1.49132u - 2.88168 \end{pmatrix} \\ a_{12} &= \begin{pmatrix} 0.569618u^{23} + 0.0154414u^{22} + \dots + 10.6995u - 10.0556 \\ -0.227426u^{23} + 0.0561493u^{22} + \dots - 2.08654u + 1.39931 \end{pmatrix} \\ a_7 &= \begin{pmatrix} -0.820652u^{23} - 0.0760856u^{22} + \dots - 11.0031u + 6.53629 \\ -0.133229u^{23} - 0.121509u^{22} + \dots - 0.793912u + 0.507308 \end{pmatrix} \end{aligned}$$

(ii) Obstruction class = -1

$$\text{(iii) Cusp Shapes} = \frac{402075}{211157}u^{23} + \frac{134432}{211157}u^{22} + \dots + \frac{5157618}{211157}u - \frac{5082086}{211157}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_8	$(u^2 + u + 1)^{12}$
c_3, c_7, c_{10} c_{11}	$u^{24} - 4u^{22} + \dots + 14u + 4$
c_4, c_6, c_9 c_{12}	$u^{24} + 4u^{22} + \dots + 2u + 4$
c_5	$(u^{12} + 2u^9 - 10u^8 + 3u^6 - 10u^5 + 25u^4 + 2u^3 + 5u^2 + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_8	$(y^2 + y + 1)^{12}$
c_3, c_7, c_{10} c_{11}	$y^{24} - 8y^{23} + \dots - 188y + 16$
c_4, c_6, c_9 c_{12}	$y^{24} + 8y^{23} + \dots + 196y + 16$
c_5	$(y^{12} - 20y^{10} + \dots + 10y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.336524 + 0.943089I$ $a = -0.558710 - 0.481647I$ $b = 0.500000 + 0.866025I$	$3.94784 + 2.02988I$	$-8.00000 - 3.46410I$
$u = -0.336524 - 0.943089I$ $a = -0.558710 + 0.481647I$ $b = 0.500000 - 0.866025I$	$3.94784 - 2.02988I$	$-8.00000 + 3.46410I$
$u = -0.963851 + 0.277395I$ $a = -2.21509 + 1.42859I$ $b = 0.500000 + 0.866025I$	$-3.94784 + 2.02988I$	$-8.00000 - 3.46410I$
$u = -0.963851 - 0.277395I$ $a = -2.21509 - 1.42859I$ $b = 0.500000 - 0.866025I$	$-3.94784 - 2.02988I$	$-8.00000 + 3.46410I$
$u = -0.868413 + 0.571698I$ $a = -0.996744 + 0.470368I$ $b = 0.500000 - 0.866025I$	$-3.94784 - 2.02988I$	$-8.00000 + 3.46410I$
$u = -0.868413 - 0.571698I$ $a = -0.996744 - 0.470368I$ $b = 0.500000 + 0.866025I$	$-3.94784 + 2.02988I$	$-8.00000 - 3.46410I$
$u = 0.976086 + 0.384626I$ $a = -1.43647 - 2.16007I$ $b = 0.500000 - 0.866025I$	$3.94784 - 2.02988I$	$-8.00000 + 3.46410I$
$u = 0.976086 - 0.384626I$ $a = -1.43647 + 2.16007I$ $b = 0.500000 + 0.866025I$	$3.94784 + 2.02988I$	$-8.00000 - 3.46410I$
$u = -0.925307 + 0.645118I$ $a = 0.375494 + 1.166280I$ $b = 0.500000 - 0.866025I$	$3.94784 - 2.02988I$	$-8.00000 + 3.46410I$
$u = -0.925307 - 0.645118I$ $a = 0.375494 - 1.166280I$ $b = 0.500000 + 0.866025I$	$3.94784 + 2.02988I$	$-8.00000 - 3.46410I$

Solutions to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.154221 + 1.132760I$		
$a = -1.58405 + 0.85717I$	$3.94784 - 2.02988I$	$-8.00000 + 3.46410I$
$b = 0.500000 - 0.866025I$		
$u = -0.154221 - 1.132760I$		
$a = -1.58405 - 0.85717I$	$3.94784 + 2.02988I$	$-8.00000 - 3.46410I$
$b = 0.500000 + 0.866025I$		
$u = 0.656880 + 0.339024I$		
$a = -0.33446 - 2.05538I$	$-3.94784 + 2.02988I$	$-8.00000 - 3.46410I$
$b = 0.500000 + 0.866025I$		
$u = 0.656880 - 0.339024I$		
$a = -0.33446 + 2.05538I$	$-3.94784 - 2.02988I$	$-8.00000 + 3.46410I$
$b = 0.500000 - 0.866025I$		
$u = 1.151420 + 0.675427I$		
$a = -1.70413 - 0.00361I$	$-3.94784 - 2.02988I$	$-8.00000 + 3.46410I$
$b = 0.500000 - 0.866025I$		
$u = 1.151420 - 0.675427I$		
$a = -1.70413 + 0.00361I$	$-3.94784 + 2.02988I$	$-8.00000 - 3.46410I$
$b = 0.500000 + 0.866025I$		
$u = -0.009837 + 1.364810I$		
$a = -0.815468 - 0.099784I$	$3.94784 + 2.02988I$	$-8.00000 - 3.46410I$
$b = 0.500000 + 0.866025I$		
$u = -0.009837 - 1.364810I$		
$a = -0.815468 + 0.099784I$	$3.94784 - 2.02988I$	$-8.00000 + 3.46410I$
$b = 0.500000 - 0.866025I$		
$u = -1.44219 + 0.20589I$		
$a = -0.668063 + 0.703047I$	$-3.94784 + 2.02988I$	$-8.00000 - 3.46410I$
$b = 0.500000 + 0.866025I$		
$u = -1.44219 - 0.20589I$		
$a = -0.668063 - 0.703047I$	$-3.94784 - 2.02988I$	$-8.00000 + 3.46410I$
$b = 0.500000 - 0.866025I$		

Solutions to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.46615 + 0.42481I$		
$a = -0.213473 + 0.288288I$	$-3.94784 + 2.02988I$	$-8.00000 - 3.46410I$
$b = 0.500000 + 0.866025I$		
$u = 1.46615 - 0.42481I$		
$a = -0.213473 - 0.288288I$	$-3.94784 - 2.02988I$	$-8.00000 + 3.46410I$
$b = 0.500000 - 0.866025I$		
$u = 0.449802 + 0.145401I$		
$a = -4.34884 - 2.27908I$	$3.94784 - 2.02988I$	$-8.00000 + 3.46410I$
$b = 0.500000 - 0.866025I$		
$u = 0.449802 - 0.145401I$		
$a = -4.34884 + 2.27908I$	$3.94784 + 2.02988I$	$-8.00000 - 3.46410I$
$b = 0.500000 + 0.866025I$		

$$\text{VI. } I_6^u = \langle b, a + 1, u + 1 \rangle$$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -1 \\ 1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -2 \\ 1 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = -18

(iv) **u**-Polynomials at the component

Crossings	u -Polynomials at each crossing
c_1, c_2, c_8	u
c_3, c_5, c_7 c_{10}, c_{11}	$u - 1$
c_4, c_6, c_9 c_{12}	$u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_8	y
c_3, c_4, c_5 c_6, c_7, c_9 c_{10}, c_{11}, c_{12}	$y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_6^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.00000$		
$a = -1.00000$	-4.93480	-18.0000
$b = 0$		

VII. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$u(u^2 + u + 1)^{12}(u^8 - 4u^7 + \dots - 3u + 1)$ $\cdot ((u^{20} - 10u^{19} + \dots - 14u + 1)^2)(u^{31} + 13u^{30} + \dots - 5076u - 1296)$ $\cdot (u^{52} + 22u^{51} + \dots + 7092u + 1296)^2$
c_2	$u(u^2 + u + 1)^{12}(u^8 + 2u^6 + 3u^4 + u^3 + 2u^2 + u + 1)$ $\cdot ((u^{20} + 5u^{18} + \dots + 7u^2 + 1)^2)(u^{31} - u^{30} + \dots - 54u + 36)$ $\cdot (u^{52} - 6u^{51} + \dots - 222u + 36)^2$
c_3, c_{11}	$(u - 1)(u^8 + u^6 + \dots + u + 1)(u^{24} - 4u^{22} + \dots + 14u + 4)$ $\cdot (u^{31} + u^{30} + \dots - 4u^2 + 1)(u^{40} - 13u^{38} + \dots + u + 1)$ $\cdot (u^{104} - u^{103} + \dots - 1113u + 179)$
c_4, c_9	$(u + 1)(u^8 + u^7 + \dots + u^2 + 1)(u^{24} + 4u^{22} + \dots + 2u + 4)$ $\cdot (u^{31} - 2u^{30} + \dots + 3u + 1)(u^{40} + 3u^{39} + \dots + 13u^2 + 1)$ $\cdot (u^{104} - 2u^{103} + \dots - 854u + 101)$
c_5	$u^8(u - 1)(u^{12} + 2u^9 - 10u^8 + 3u^6 - 10u^5 + 25u^4 + 2u^3 + 5u^2 + 1)^2$ $\cdot (u^{31} + 6u^{30} + \dots + 6656u + 1024)$ $\cdot (u^{40} + 56u^{34} + \dots - 141720u^2 + 128321)$ $\cdot (u^{52} - 2u^{51} + \dots - 2u + 1)^2$
c_6, c_{12}	$(u + 1)(u^8 - u^7 + \dots + u^2 + 1)(u^{24} + 4u^{22} + \dots + 2u + 4)$ $\cdot (u^{31} - 2u^{30} + \dots + 3u + 1)(u^{40} - 3u^{39} + \dots + 13u^2 + 1)$ $\cdot (u^{104} - 2u^{103} + \dots - 854u + 101)$
c_7, c_{10}	$(u - 1)(u^8 + u^6 + \dots - u + 1)(u^{24} - 4u^{22} + \dots + 14u + 4)$ $\cdot (u^{31} + u^{30} + \dots - 4u^2 + 1)(u^{40} - 13u^{38} + \dots - u + 1)$ $\cdot (u^{104} - u^{103} + \dots - 1113u + 179)$
c_8	$u(u^2 + u + 1)^{12}(u^8 + 2u^6 + 3u^4 - u^3 + 2u^2 - u + 1)$ $\cdot ((u^{20} + 5u^{18} + \dots + 7u^2 + 1)^2)(u^{31} - u^{30} + \dots - 54u + 36)$ $\cdot (u^{52} - 6u^{51} + \dots - 222u + 36)^2$

VIII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$y(y^2 + y + 1)^{12}(y^8 + 4y^7 + \dots + 7y + 1)$ $\cdot (y^{20} + 10y^{19} + \dots - 6y + 1)^2$ $\cdot (y^{31} + 13y^{30} + \dots + 17064432y - 1679616)$ $\cdot (y^{52} + 22y^{51} + \dots - 195696y + 1679616)^2$
c_2, c_8	$y(y^2 + y + 1)^{12}(y^8 + 4y^7 + \dots + 3y + 1)$ $\cdot ((y^{20} + 10y^{19} + \dots + 14y + 1)^2)(y^{31} + 13y^{30} + \dots - 5076y - 1296)$ $\cdot (y^{52} + 22y^{51} + \dots + 7092y + 1296)^2$
c_3, c_7, c_{10} c_{11}	$(y - 1)(y^8 + 2y^7 - 3y^6 - 5y^5 + 6y^4 + 4y^3 - 4y^2 - y + 1)$ $\cdot (y^{24} - 8y^{23} + \dots - 188y + 16)(y^{31} - 11y^{30} + \dots + 8y - 1)$ $\cdot (y^{40} - 26y^{39} + \dots - 29y + 1)(y^{104} - 59y^{103} + \dots - 398901y + 32041)$
c_4, c_6, c_9 c_{12}	$(y - 1)(y^8 - y^7 - 4y^6 + 4y^5 + 6y^4 - 5y^3 - 3y^2 + 2y + 1)$ $\cdot (y^{24} + 8y^{23} + \dots + 196y + 16)(y^{31} + 18y^{30} + \dots + 13y - 1)$ $\cdot (y^{40} + 29y^{39} + \dots + 26y + 1)(y^{104} + 68y^{103} + \dots + 541870y + 10201)$
c_5	$y^8(y - 1)(y^{12} - 20y^{10} + \dots + 10y + 1)^2$ $\cdot (y^{20} + 56y^{17} + \dots - 141720y + 128321)^2$ $\cdot (y^{31} + 2y^{30} + \dots - 1310720y - 1048576)$ $\cdot (y^{52} + 2y^{51} + \dots + 88y + 1)^2$