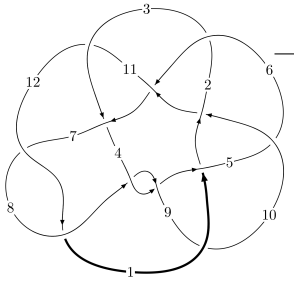
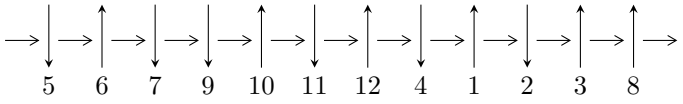
$12a_{1211}$ $(K12a_{1211})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

Ideals for irreducible components[2]of $X_{\mathbf{par}}$

$$\begin{aligned}
I_1^u &= \langle 2.75820 \times 10^{1048} u^{163} - 3.15201 \times 10^{1048} u^{162} + \cdots + 7.37813 \times 10^{1048} b - 3.04580 \times 10^{1050}, \\
&\quad 1.81233 \times 10^{1053} u^{163} - 5.92096 \times 10^{1054} u^{162} + \cdots + 2.02597 \times 10^{1055} a - 4.42522 \times 10^{1056}, \\
&\quad u^{164} - 2u^{163} + \cdots - 3386u + 61 \rangle \\
I_2^u &= \langle -5.26861 \times 10^{16} u^{25} + 2.05028 \times 10^{16} u^{24} + \cdots + 3.42865 \times 10^{15} b - 8.25553 \times 10^{16}, \\
&\quad 4.92095 \times 10^{16} u^{25} - 2.56966 \times 10^{16} u^{24} + \cdots + 3.42865 \times 10^{15} a + 1.11054 \times 10^{17},\ u^{26} - u^{25} + \cdots + 23u - 1 \rangle \\
I_3^u &= \langle -u^3 + b + u - 1,\ u^5 + 4u^4 - u^2 + 3a + 3u + 2,\ u^6 - u^4 + 2u^3 + u^2 - u + 1 \rangle
\end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 196 representations.

[1]The 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`).

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

I. $\boldsymbol{I_1^u = \langle 2.76 \times 10^{1048} u^{163} - 3.15 \times 10^{1048} u^{162} + \cdots + 7.38 \times 10^{1048} b - 3.05 \times 10^{1050},\ 1.81 \times 10^{1053} u^{163} - 5.92 \times 10^{1054} u^{162} + \cdots + 2.03 \times 10^{1055} a - 4.43 \times 10^{1056},\ u^{164} - 2u^{163} + \cdots - 3386u + 61 \rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.00894549u^{163} + 0.292253u^{162} + \cdots + 398.496u + 21.8424 \\ -0.373834u^{163} + 0.427210u^{162} + \cdots - 2124.70u + 41.2815 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.382780u^{163} + 0.719463u^{162} + \cdots - 1726.20u + 63.1239 \\ -0.373834u^{163} + 0.427210u^{162} + \cdots - 2124.70u + 41.2815 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.104186u^{163} + 0.429492u^{162} + \cdots - 498.173u + 40.4408 \\ -0.441826u^{163} + 0.511079u^{162} + \cdots - 2464.92u + 47.6643 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.171894u^{163} + 0.144356u^{162} + \cdots + 465.124u - 54.8742 \\ 0.158864u^{163} - 0.326697u^{162} + \cdots - 480.252u + 6.26403 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.246697u^{163} - 0.380836u^{162} + \cdots - 1682.95u + 77.4279 \\ 0.100974u^{163} - 0.192003u^{162} + \cdots + 873.840u - 13.7367 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.366074u^{163} + 0.741373u^{162} + \cdots - 1622.52u + 83.2336 \\ 0.283184u^{163} - 0.109775u^{162} + \cdots + 1197.22u - 18.3804 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.142442u^{163} + 0.0702581u^{162} + \cdots - 583.910u - 17.2748 \\ 0.105327u^{163} - 0.196052u^{162} + \cdots - 774.839u + 12.9511 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1.01159u^{163} - 2.64363u^{162} + \cdots - 2987.89u + 108.144 \\ -0.176189u^{163} + 0.321162u^{162} + \cdots + 544.973u - 7.21403 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.183937u^{163} + 1.47453u^{162} + \cdots - 1344.67u + 46.8656$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{164}+7u^{163}+\cdots-114622u-349484$
c_2	$u^{164}+2u^{163}+\cdots-173301u+10677$
c_3	$3(3u^{164}+30u^{163}+\cdots-23u-1)$
c_4, c_8	$u^{164}-2u^{163}+\cdots-3386u+61$
c_5	$3(3u^{164}-14u^{162}+\cdots+3228u+43)$
c_6	$3(3u^{164}-14u^{162}+\cdots-3228u+43)$
c_7, c_{12}	$u^{164}+2u^{163}+\cdots+3386u+61$
c_9	$3(3u^{164}-30u^{163}+\cdots+23u-1)$
c_{10}	$u^{164}-2u^{163}+\cdots+173301u+10677$
c_{11}	$u^{164}-7u^{163}+\cdots+114622u-349484$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{164} - 41y^{163} + \cdots - 4668550960796y + 122139066256$
c_2, c_{10}	$y^{164} - 34y^{163} + \cdots - 9384110787y + 113998329$
c_3, c_9	$9(9y^{164} + 168y^{163} + \cdots - 3213y + 1)$
c_4, c_7, c_8 c_{12}	$y^{164} - 110y^{163} + \cdots - 5163208y + 3721$
c_5, c_6	$9(9y^{164} - 84y^{163} + \cdots - 1.13525 \times 10^7 y + 1849)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.798897 + 0.600859I$ $a = -1.58652 - 1.10809I$ $b = \quad 1.043510 - 0.483445I$	$0.39756 - 4.84593I$	0
$u = \quad 0.798897 - 0.600859I$ $a = -1.58652 + 1.10809I$ $b = \quad 1.043510 + 0.483445I$	$0.39756 + 4.84593I$	0
$u = -0.763806 + 0.635007I$ $a = \quad 1.25065 - 0.72745I$ $b = -0.763806 - 0.635007I$	$3.87653I$	0
$u = -0.763806 - 0.635007I$ $a = \quad 1.25065 + 0.72745I$ $b = -0.763806 + 0.635007I$	$-3.87653I$	0
$u = -0.936998 + 0.373525I$ $a = \quad 0.930907 - 0.791991I$ $b = -1.42614 - 0.93512I$	$2.66702 + 4.07987I$	0
$u = -0.936998 - 0.373525I$ $a = \quad 0.930907 + 0.791991I$ $b = -1.42614 + 0.93512I$	$2.66702 - 4.07987I$	0
$u = -1.011230 + 0.030403I$ $a = -0.89458 + 2.35109I$ $b = \quad 1.090610 + 0.363390I$	$-0.175281 + 0.663751I$	0
$u = -1.011230 - 0.030403I$ $a = -0.89458 - 2.35109I$ $b = \quad 1.090610 - 0.363390I$	$-0.175281 - 0.663751I$	0
$u = -0.977792 + 0.007736I$ $a = \quad 0.51300 - 3.04293I$ $b = -0.977792 - 0.007736I$	$-0.507463I$	0
$u = -0.977792 - 0.007736I$ $a = \quad 0.51300 + 3.04293I$ $b = -0.977792 + 0.007736I$	$0.507463I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.960617+0.124105I$ $a=\ \ 0.235681-0.341648I$ $b=\ \ 0.365350-0.710425I$	$-1.70988+0.60280I$	0
$u=-0.960617-0.124105I$ $a=\ \ 0.235681+0.341648I$ $b=\ \ 0.365350+0.710425I$	$-1.70988-0.60280I$	0
$u=-1.032720+0.065105I$ $a=\ \ 0.953281+0.485959I$ $b=-1.46278+0.53288I$	$-2.74159+0.88861I$	0
$u=-1.032720-0.065105I$ $a=\ \ 0.953281-0.485959I$ $b=-1.46278-0.53288I$	$-2.74159-0.88861I$	0
$u=\ \ 0.963273$ $a=-1.20577$ $b=\ \ 2.02298$	3.88198	0
$u=\ \ 0.949425+0.120762I$ $a=\ \ 0.175869+0.128372I$ $b=\ \ 0.07698+1.55742I$	$-0.78508-5.40731I$	0
$u=\ \ 0.949425-0.120762I$ $a=\ \ 0.175869-0.128372I$ $b=\ \ 0.07698-1.55742I$	$-0.78508+5.40731I$	0
$u=-0.006754+1.046690I$ $a=-1.52430-0.32954I$ $b=\ \ 1.331860+0.369170I$	$7.13952+6.54845I$	0
$u=-0.006754-1.046690I$ $a=-1.52430+0.32954I$ $b=\ \ 1.331860-0.369170I$	$7.13952-6.54845I$	0
$u=\ \ 0.086283+1.047630I$ $a=-1.59143-0.00241I$ $b=\ \ 1.356670-0.282535I$	$7.20749-6.27464I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.086283 - 1.047630I$ $a = -1.59143 + 0.00241I$ $b = 1.356670 + 0.282535I$	$7.20749 + 6.27464I$	0
$u = 1.074770 + 0.100746I$ $a = 0.394734 - 0.610938I$ $b = -0.98104 - 1.33165I$	$-2.11600 - 5.55049I$	0
$u = 1.074770 - 0.100746I$ $a = 0.394734 + 0.610938I$ $b = -0.98104 + 1.33165I$	$-2.11600 + 5.55049I$	0
$u = -0.984874 + 0.458102I$ $a = -0.0748509 - 0.1043720I$ $b = 0.554699 - 0.592619I$	$-1.040880 + 0.811517I$	0
$u = -0.984874 - 0.458102I$ $a = -0.0748509 + 0.1043720I$ $b = 0.554699 + 0.592619I$	$-1.040880 - 0.811517I$	0
$u = -1.076700 + 0.166906I$ $a = 1.56634 - 0.94640I$ $b = -1.349670 - 0.408498I$	$-3.03570 + 3.98628I$	0
$u = -1.076700 - 0.166906I$ $a = 1.56634 + 0.94640I$ $b = -1.349670 + 0.408498I$	$-3.03570 - 3.98628I$	0
$u = 0.986695 + 0.502565I$ $a = -0.61025 - 1.29255I$ $b = 1.149870 - 0.134063I$	$4.53081 - 4.33380I$	0
$u = 0.986695 - 0.502565I$ $a = -0.61025 + 1.29255I$ $b = 1.149870 + 0.134063I$	$4.53081 + 4.33380I$	0
$u = -0.195421 + 1.097560I$ $a = 1.82772 + 0.41740I$ $b = -1.345620 - 0.053192I$	$5.56120 - 5.11329I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.195421-1.097560I$ $a=\ \ 1.82772-0.41740I$ $b=-1.345620+0.053192I$	$5.56120+5.11329I$	0
$u=-0.470115+0.743651I$ $a=\ \ 0.665886-0.437045I$ $b=\ \ 0.091710+0.211062I$	$-1.99149+2.63914I$	0
$u=-0.470115-0.743651I$ $a=\ \ 0.665886+0.437045I$ $b=\ \ 0.091710-0.211062I$	$-1.99149-2.63914I$	0
$u=-0.856505+0.197199I$ $a=\ \ 1.44080-0.04041I$ $b=\ \ 0.298357-0.180165I$	$-0.687738-0.103671I$	0
$u=-0.856505-0.197199I$ $a=\ \ 1.44080+0.04041I$ $b=\ \ 0.298357+0.180165I$	$-0.687738+0.103671I$	0
$u=\ \ 0.461785+1.023910I$ $a=-0.520857+0.245986I$ $b=\ \ 0.342421+0.075790I$	$0.33309+5.06568I$	0
$u=\ \ 0.461785-1.023910I$ $a=-0.520857-0.245986I$ $b=\ \ 0.342421-0.075790I$	$0.33309-5.06568I$	0
$u=-0.423919+0.764806I$ $a=-0.203308+0.416945I$ $b=-0.008003-0.519204I$	$-1.68748+2.68990I$	0
$u=-0.423919-0.764806I$ $a=-0.203308-0.416945I$ $b=-0.008003+0.519204I$	$-1.68748-2.68990I$	0
$u=\ \ 0.860890+0.108703I$ $a=-0.73831-1.48618I$ $b=\ \ 0.993044-0.804227I$	$0.34989-4.29120I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.860890 - 0.108703I$ $a = -0.73831 + 1.48618I$ $b = 0.993044 + 0.804227I$	$0.34989 + 4.29120I$	0
$u = 1.13423$ $a = 0.110542$ $b = -1.44475$	3.38142	0
$u = 1.137900 + 0.144896I$ $a = 1.23584 + 1.28400I$ $b = -1.285350 + 0.556809I$	$-2.07933 - 10.92060I$	0
$u = 1.137900 - 0.144896I$ $a = 1.23584 - 1.28400I$ $b = -1.285350 - 0.556809I$	$-2.07933 + 10.92060I$	0
$u = 0.847347 + 0.086135I$ $a = 0.96361 - 1.68719I$ $b = -0.646360 - 0.016081I$	$1.44457 - 2.68465I$	0
$u = 0.847347 - 0.086135I$ $a = 0.96361 + 1.68719I$ $b = -0.646360 + 0.016081I$	$1.44457 + 2.68465I$	0
$u = 1.090610 + 0.363390I$ $a = 0.98490 + 2.18329I$ $b = -1.011230 + 0.030403I$	$0.175281 - 0.663751I$	0
$u = 1.090610 - 0.363390I$ $a = 0.98490 - 2.18329I$ $b = -1.011230 - 0.030403I$	$0.175281 + 0.663751I$	0
$u = 1.043510 + 0.483445I$ $a = -0.99622 - 1.06959I$ $b = 0.798897 - 0.600859I$	$-0.39756 - 4.84593I$	0
$u = 1.043510 - 0.483445I$ $a = -0.99622 + 1.06959I$ $b = 0.798897 + 0.600859I$	$-0.39756 + 4.84593I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.149870 + 0.134063I$ $a = -1.18567 - 0.85008I$ $b = 0.986695 - 0.502565I$	$-4.53081 - 4.33380I$	0
$u = 1.149870 - 0.134063I$ $a = -1.18567 + 0.85008I$ $b = 0.986695 + 0.502565I$	$-4.53081 + 4.33380I$	0
$u = 0.152711 + 0.817611I$ $a = -1.46956 - 0.71080I$ $b = 1.376660 + 0.150410I$	$7.63231 + 0.40560I$	0
$u = 0.152711 - 0.817611I$ $a = -1.46956 + 0.71080I$ $b = 1.376660 - 0.150410I$	$7.63231 - 0.40560I$	0
$u = 0.554699 + 0.592619I$ $a = 0.944174 + 0.625081I$ $b = -0.984874 - 0.458102I$	$1.040880 + 0.811517I$	0
$u = 0.554699 - 0.592619I$ $a = 0.944174 - 0.625081I$ $b = -0.984874 + 0.458102I$	$1.040880 - 0.811517I$	0
$u = -1.195730 + 0.036298I$ $a = -0.752787 + 0.321987I$ $b = 1.32024 + 0.56199I$	$-3.50885 - 0.54323I$	0
$u = -1.195730 - 0.036298I$ $a = -0.752787 - 0.321987I$ $b = 1.32024 - 0.56199I$	$-3.50885 + 0.54323I$	0
$u = 1.171860 + 0.240590I$ $a = -0.127633 - 0.562139I$ $b = -0.041618 - 1.288840I$	$-1.68961 - 5.60069I$	0
$u = 1.171860 - 0.240590I$ $a = -0.127633 + 0.562139I$ $b = -0.041618 + 1.288840I$	$-1.68961 + 5.60069I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.365350 + 0.710425I$ $a = 1.46386 + 0.12391I$ $b = -0.960617 - 0.124105I$	$1.70988 + 0.60280I$	0
$u = 0.365350 - 0.710425I$ $a = 1.46386 - 0.12391I$ $b = -0.960617 + 0.124105I$	$1.70988 - 0.60280I$	0
$u = -1.191000 + 0.205828I$ $a = -0.108582 + 0.243410I$ $b = 0.02588 + 1.63730I$	$-1.51448 + 4.61341I$	0
$u = -1.191000 - 0.205828I$ $a = -0.108582 - 0.243410I$ $b = 0.02588 - 1.63730I$	$-1.51448 - 4.61341I$	0
$u = 0.976181 + 0.729701I$ $a = -1.82156 - 0.88207I$ $b = 1.228230 - 0.252391I$	$0.75099 - 4.04184I$	0
$u = 0.976181 - 0.729701I$ $a = -1.82156 + 0.88207I$ $b = 1.228230 + 0.252391I$	$0.75099 + 4.04184I$	0
$u = 1.135540 + 0.459031I$ $a = 0.933898 + 0.738372I$ $b = -1.45784 + 0.57451I$	$4.73064 - 5.03536I$	0
$u = 1.135540 - 0.459031I$ $a = 0.933898 - 0.738372I$ $b = -1.45784 - 0.57451I$	$4.73064 + 5.03536I$	0
$u = -0.499041 + 1.144160I$ $a = 1.156510 - 0.558752I$ $b = -1.254280 + 0.319827I$	$5.34717 - 6.30857I$	0
$u = -0.499041 - 1.144160I$ $a = 1.156510 + 0.558752I$ $b = -1.254280 - 0.319827I$	$5.34717 + 6.30857I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.228230 + 0.252391I$ $a = -0.441495 - 1.163440I$ $b = 0.976181 - 0.729701I$	$-0.75099 - 4.04184I$	0
$u = 1.228230 - 0.252391I$ $a = -0.441495 + 1.163440I$ $b = 0.976181 + 0.729701I$	$-0.75099 + 4.04184I$	0
$u = -1.089670 + 0.631278I$ $a = -1.25503 + 0.72769I$ $b = 1.39299 + 0.63362I$	$3.36423 + 12.46140I$	0
$u = -1.089670 - 0.631278I$ $a = -1.25503 - 0.72769I$ $b = 1.39299 - 0.63362I$	$3.36423 - 12.46140I$	0
$u = 0.712768 + 0.194411I$ $a = 0.17258 + 2.03656I$ $b = 0.712768 - 0.194411I$	$-10.3096I$	0
$u = 0.712768 - 0.194411I$ $a = 0.17258 - 2.03656I$ $b = 0.712768 + 0.194411I$	$10.3096I$	0
$u = 0.993044 + 0.804227I$ $a = -1.24226 - 0.95166I$ $b = 0.860890 - 0.108703I$	$-0.34989 - 4.29120I$	0
$u = 0.993044 - 0.804227I$ $a = -1.24226 + 0.95166I$ $b = 0.860890 + 0.108703I$	$-0.34989 + 4.29120I$	0
$u = 0.290001 + 0.656433I$ $a = 1.64742 - 0.02995I$ $b = -1.48126 + 0.20586I$	$6.36504 - 0.06325I$	0
$u = 0.290001 - 0.656433I$ $a = 1.64742 + 0.02995I$ $b = -1.48126 - 0.20586I$	$6.36504 + 0.06325I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.041618+1.288840I$ $a=-1.70660+0.24675I$ $b=\ \ 1.171860-0.240590I$	$1.68961-5.60069I$	0
$u=-0.041618-1.288840I$ $a=-1.70660-0.24675I$ $b=\ \ 1.171860+0.240590I$	$1.68961+5.60069I$	0
$u=-1.254280+0.319827I$ $a=\ \ 0.239759+0.067016I$ $b=-0.499041+1.144160I$	$-5.34717+6.30857I$	0
$u=-1.254280-0.319827I$ $a=\ \ 0.239759-0.067016I$ $b=-0.499041-1.144160I$	$-5.34717-6.30857I$	0
$u=-0.498755+0.469217I$ $a=-0.278879+1.118990I$ $b=\ \ 1.49497-0.31440I$	$3.83945-0.42852I$	0
$u=-0.498755-0.469217I$ $a=-0.278879-1.118990I$ $b=\ \ 1.49497+0.31440I$	$3.83945+0.42852I$	0
$u=\ \ 0.586784+0.335479I$ $a=\ \ 1.295380-0.377074I$ $b=-0.494252+0.014336I$	$1.58612+0.23499I$	0
$u=\ \ 0.586784-0.335479I$ $a=\ \ 1.295380+0.377074I$ $b=-0.494252-0.014336I$	$1.58612-0.23499I$	0
$u=\ \ 0.407004+0.529059I$ $a=\ \ 0.753394+1.000670I$ $b=\ \ 0.407004-0.529059I$	$-10.4288I$	0
$u=\ \ 0.407004-0.529059I$ $a=\ \ 0.753394-1.000670I$ $b=\ \ 0.407004+0.529059I$	$10.4288I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.155670+1.325700I$ $a=\ \ 1.49656+0.19172I$ $b=-1.325370-0.337835I$	$4.9356+13.8553I$	0
$u=-0.155670-1.325700I$ $a=\ \ 1.49656-0.19172I$ $b=-1.325370+0.337835I$	$4.9356-13.8553I$	0
$u=-1.345620+0.053192I$ $a=-0.353075-0.354293I$ $b=-0.195421-1.097560I$	$-5.56120-5.11329I$	0
$u=-1.345620-0.053192I$ $a=-0.353075+0.354293I$ $b=-0.195421+1.097560I$	$-5.56120+5.11329I$	0
$u=-0.646360+0.016081I$ $a=\ \ 0.58802+2.20526I$ $b=\ \ 0.847347-0.086135I$	$-1.44457-2.68465I$	0
$u=-0.646360-0.016081I$ $a=\ \ 0.58802-2.20526I$ $b=\ \ 0.847347+0.086135I$	$-1.44457+2.68465I$	0
$u=-1.325370+0.337835I$ $a=\ \ 0.163443-0.146730I$ $b=-0.155670-1.325700I$	$-4.9356+13.8553I$	0
$u=-1.325370-0.337835I$ $a=\ \ 0.163443+0.146730I$ $b=-0.155670+1.325700I$	$-4.9356-13.8553I$	0
$u=\ \ 1.331860+0.369170I$ $a=\ \ 0.067000+0.132865I$ $b=-0.006754+1.046690I$	$-7.13952-6.54845I$	0
$u=\ \ 1.331860-0.369170I$ $a=\ \ 0.067000-0.132865I$ $b=-0.006754-1.046690I$	$-7.13952+6.54845I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.376660 + 0.150410I$ $a = -0.306043 + 0.150774I$ $b = 0.152711 + 0.817611I$	$-7.63231 - 0.40560I$	0
$u = 1.376660 - 0.150410I$ $a = -0.306043 - 0.150774I$ $b = 0.152711 - 0.817611I$	$-7.63231 + 0.40560I$	0
$u = 1.356670 + 0.282535I$ $a = -0.236381 - 0.150176I$ $b = 0.086283 - 1.047630I$	$-7.20749 - 6.27464I$	0
$u = 1.356670 - 0.282535I$ $a = -0.236381 + 0.150176I$ $b = 0.086283 + 1.047630I$	$-7.20749 + 6.27464I$	0
$u = -1.360390 + 0.282471I$ $a = -0.447485 + 0.713209I$ $b = 1.42211 + 0.85253I$	$1.34662 + 3.43245I$	0
$u = -1.360390 - 0.282471I$ $a = -0.447485 - 0.713209I$ $b = 1.42211 - 0.85253I$	$1.34662 - 3.43245I$	0
$u = -1.285350 + 0.556809I$ $a = -0.80400 + 1.27577I$ $b = 1.137900 + 0.144896I$	$2.07933 + 10.92060I$	0
$u = -1.285350 - 0.556809I$ $a = -0.80400 - 1.27577I$ $b = 1.137900 - 0.144896I$	$2.07933 - 10.92060I$	0
$u = -1.349670 + 0.408498I$ $a = 0.302265 - 1.016180I$ $b = -1.076700 - 0.166906I$	$3.03570 + 3.98628I$	0
$u = -1.349670 - 0.408498I$ $a = 0.302265 + 1.016180I$ $b = -1.076700 + 0.166906I$	$3.03570 - 3.98628I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.32024 + 0.56199I$ $a = 0.738566 + 0.470619I$ $b = -1.195730 + 0.036298I$	$3.50885 + 0.54323I$	0
$u = 1.32024 - 0.56199I$ $a = 0.738566 - 0.470619I$ $b = -1.195730 - 0.036298I$	$3.50885 - 0.54323I$	0
$u = -1.44475$ $a = -1.04745$ $b = 1.13423$	-3.38142	0
$u = 1.35508 + 0.51304I$ $a = 1.012630 + 0.766931I$ $b = -1.42327 + 0.67155I$	$2.87526 - 12.08470I$	0
$u = 1.35508 - 0.51304I$ $a = 1.012630 - 0.766931I$ $b = -1.42327 - 0.67155I$	$2.87526 + 12.08470I$	0
$u = -1.38671 + 0.50001I$ $a = 0.918276 - 0.890188I$ $b = -1.37123 - 0.55799I$	$2.59907 + 11.77920I$	0
$u = -1.38671 - 0.50001I$ $a = 0.918276 + 0.890188I$ $b = -1.37123 + 0.55799I$	$2.59907 - 11.77920I$	0
$u = -1.37123 + 0.55799I$ $a = 1.29967 - 0.77049I$ $b = -1.38671 - 0.50001I$	$-2.59907 + 11.77920I$	0
$u = -1.37123 - 0.55799I$ $a = 1.29967 + 0.77049I$ $b = -1.38671 + 0.50001I$	$-2.59907 - 11.77920I$	0
$u = -0.008003 + 0.519204I$ $a = -0.222744 + 0.326596I$ $b = -0.423919 - 0.764806I$	$1.68748 + 2.68990I$	$7.29861 - 4.99949I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.008003-0.519204I$ $a=-0.222744-0.326596I$ $b=-0.423919+0.764806I$	$1.68748-2.68990I$	$7.29861+4.99949I$
$u=-0.155219+0.483254I$ $a=\ \ 1.23021-2.08133I$ $b=\ \ 0.057549+0.199970I$	$1.31809+3.60191I$	$8.56739-4.52838I$
$u=-0.155219-0.483254I$ $a=\ \ 1.23021+2.08133I$ $b=\ \ 0.057549-0.199970I$	$1.31809-3.60191I$	$8.56739+4.52838I$
$u=-1.48126+0.20586I$ $a=-0.0592996+0.0998339I$ $b=\ \ 0.290001+0.656433I$	$-6.36504+0.06325I$	0
$u=-1.48126-0.20586I$ $a=-0.0592996-0.0998339I$ $b=\ \ 0.290001-0.656433I$	$-6.36504-0.06325I$	0
$u=-0.494252+0.014336I$ $a=\ \ 1.193040+0.147730I$ $b=\ \ 0.586784+0.335479I$	$-1.58612-0.23499I$	$-6.46746-1.50521I$
$u=-0.494252-0.014336I$ $a=\ \ 1.193040-0.147730I$ $b=\ \ 0.586784-0.335479I$	$-1.58612+0.23499I$	$-6.46746+1.50521I$
$u=\ \ 1.49497+0.31440I$ $a=\ \ 0.653177-0.024109I$ $b=-0.498755-0.469217I$	$-3.83945-0.42852I$	0
$u=\ \ 1.49497-0.31440I$ $a=\ \ 0.653177+0.024109I$ $b=-0.498755+0.469217I$	$-3.83945+0.42852I$	0
$u=\ \ 1.39299+0.63362I$ $a=\ \ 0.978354+0.557346I$ $b=-1.089670+0.631278I$	$-3.36423-12.46140I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.39299 - 0.63362I$ $a = 0.978354 - 0.557346I$ $b = -1.089670 - 0.631278I$	$-3.36423 + 12.46140I$	0
$u = -1.46278 + 0.53288I$ $a = 0.516159 - 0.553946I$ $b = -1.032720 + 0.065105I$	$2.74159 - 0.88861I$	0
$u = -1.46278 - 0.53288I$ $a = 0.516159 + 0.553946I$ $b = -1.032720 - 0.065105I$	$2.74159 + 0.88861I$	0
$u = 0.07698 + 1.55742I$ $a = -1.045890 - 0.028272I$ $b = 0.949425 + 0.120762I$	$0.78508 + 5.40731I$	0
$u = 0.07698 - 1.55742I$ $a = -1.045890 + 0.028272I$ $b = 0.949425 - 0.120762I$	$0.78508 - 5.40731I$	0
$u = 1.56599$ $a = -0.482884$ $b = 0.0268950$	-8.52468	0
$u = -1.45784 + 0.57451I$ $a = -1.003620 + 0.462150I$ $b = 1.135540 + 0.459031I$	$-4.73064 + 5.03536I$	0
$u = -1.45784 - 0.57451I$ $a = -1.003620 - 0.462150I$ $b = 1.135540 - 0.459031I$	$-4.73064 - 5.03536I$	0
$u = 1.45165 + 0.59533I$ $a = -1.132840 - 0.694788I$ $b = 1.45165 - 0.59533I$	$-20.4896I$	0
$u = 1.45165 - 0.59533I$ $a = -1.132840 + 0.694788I$ $b = 1.45165 + 0.59533I$	$20.4896I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.42327+0.67155I$ $a=-1.215300+0.648111I$ $b=\ \ 1.35508+0.51304I$	$-2.87526+12.08470I$	0
$u=-1.42327-0.67155I$ $a=-1.215300-0.648111I$ $b=\ \ 1.35508-0.51304I$	$-2.87526-12.08470I$	0
$u=\ \ 0.388734$ $a=\ \ 1.75056$ $b=-1.72165$	6.81230	-19.9630
$u=\ \ 1.63044$ $a=-1.04538$ $b=\ \ 1.68678$	-1.46107	0
$u=\ \ 0.02588+1.63730I$ $a=\ \ 1.380900-0.154441I$ $b=-1.191000+0.205828I$	$1.51448-4.61341I$	0
$u=\ \ 0.02588-1.63730I$ $a=\ \ 1.380900+0.154441I$ $b=-1.191000-0.205828I$	$1.51448+4.61341I$	0
$u=\ \ 0.342421+0.075790I$ $a=\ \ 1.167660-0.158827I$ $b=\ \ 0.461785+1.023910I$	$-0.33309-5.06568I$	$-0.32464+10.65498I$
$u=\ \ 0.342421-0.075790I$ $a=\ \ 1.167660+0.158827I$ $b=\ \ 0.461785-1.023910I$	$-0.33309+5.06568I$	$-0.32464-10.65498I$
$u=\ \ 0.298357+0.180165I$ $a=\ \ 4.34060-0.83839I$ $b=-0.856505-0.197199I$	$0.687738-0.103671I$	$8.44993+5.47981I$
$u=\ \ 0.298357-0.180165I$ $a=\ \ 4.34060+0.83839I$ $b=-0.856505+0.197199I$	$0.687738+0.103671I$	$8.44993-5.47981I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.98104+1.33165I$ $a=-1.200820+0.558416I$ $b=\ \ 1.074770-0.100746I$	$2.11600-5.55049I$	0
$u=-0.98104-1.33165I$ $a=-1.200820-0.558416I$ $b=\ \ 1.074770+0.100746I$	$2.11600+5.55049I$	0
$u=\ \ 1.42211+0.85253I$ $a=\ \ 1.48977+0.41110I$ $b=-1.360390+0.282471I$	$-1.34662-3.43245I$	0
$u=\ \ 1.42211-0.85253I$ $a=\ \ 1.48977-0.41110I$ $b=-1.360390-0.282471I$	$-1.34662+3.43245I$	0
$u=\ \ 1.68678$ $a=-0.619979$ $b=\ \ 1.63044$	1.46107	0
$u=-1.42614+0.93512I$ $a=\ \ 1.004750-0.346221I$ $b=-0.936998-0.373525I$	$-2.66702+4.07987I$	0
$u=-1.42614-0.93512I$ $a=\ \ 1.004750+0.346221I$ $b=-0.936998+0.373525I$	$-2.66702-4.07987I$	0
$u=-1.72165$ $a=\ \ 0.00652916$ $b=\ \ 0.388734$	-6.81230	0
$u=\ \ 0.091710+0.211062I$ $a=-2.34302-1.90931I$ $b=-0.470115+0.743651I$	$1.99149-2.63914I$	$8.08632+6.08519I$
$u=\ \ 0.091710-0.211062I$ $a=-2.34302+1.90931I$ $b=-0.470115-0.743651I$	$1.99149+2.63914I$	$8.08632-6.08519I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.057549 + 0.199970I$ $a = -5.16534 + 2.06047I$ $b = -0.155219 + 0.483254I$	$-1.31809 - 3.60191I$	$-8.56739 + 4.52838I$
$u = 0.057549 - 0.199970I$ $a = -5.16534 - 2.06047I$ $b = -0.155219 - 0.483254I$	$-1.31809 + 3.60191I$	$-8.56739 - 4.52838I$
$u = 0.0268950$ $a = 26.5504$ $b = 1.56599$	8.52468	13.3390
$u = 2.02298$ $a = -0.389126$ $b = 0.963273$	-3.88198	0

II.

$\boldsymbol{I_2^u = \langle -5.27\times10^{16}u^{25}+2.05\times10^{16}u^{24}+\cdots+3.43\times10^{15}b-8.26\times10^{16},\ 4.92\times10^{16}u^{25}-2.57\times10^{16}u^{24}+\cdots+3.43\times10^{15}a+1.11\times10^{17},\ u^{26}-u^{25}+\cdots+23u-1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ -u^3+u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -14.3525u^{25}+7.49467u^{24}+\cdots+560.191u-32.3899 \\ 15.3665u^{25}-5.97984u^{24}+\cdots-552.598u+24.0781 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 1.01399u^{25}+1.51483u^{24}+\cdots+7.59317u-8.31185 \\ 15.3665u^{25}-5.97984u^{24}+\cdots-552.598u+24.0781 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -5.01455u^{25}+3.45005u^{24}+\cdots+219.539u-18.1676 \\ 19.1393u^{25}-7.37482u^{24}+\cdots-676.426u+29.8406 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -69.6316u^{25}+28.6474u^{24}+\cdots+2445.57u-127.201 \\ 5.13718u^{25}-1.68516u^{24}+\cdots-168.083u+4.68301 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 43.1205u^{25}-16.5489u^{24}+\cdots-1489.15u+81.1117 \\ 18.0048u^{25}-7.33507u^{24}+\cdots-627.342u+32.5583 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -32.8811u^{25}+12.8170u^{24}+\cdots+1187.04u-49.3843 \\ 61.6923u^{25}-22.0465u^{24}+\cdots-2075.41u+98.6091 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -91.5019u^{25}+36.5625u^{24}+\cdots+3207.96u-151.919 \\ -47.3217u^{25}+17.4796u^{24}+\cdots+1582.99u-74.3933 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -119.764u^{25}+48.6106u^{24}+\cdots+4487.30u-201.516 \\ 35.5925u^{25}-15.6666u^{24}+\cdots-1270.94u+62.1390 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{843781875852968090}{3428645656387843}u^{25}-\frac{333222561187417665}{3428645656387843}u^{24}+\cdots-\frac{29770331489875929664}{3428645656387843}u+\frac{1510384610757036397}{3428645656387843}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{26} - u^{25} + \cdots + 8u - 1$
c_2	$u^{26} - 2u^{25} + \cdots - 13u - 1$
c_3	$u^{26} - 5u^{25} + \cdots + 10u + 1$
c_4, c_{12}	$u^{26} + u^{25} + \cdots - 23u - 1$
c_5	$u^{26} - 2u^{25} + \cdots + 4u - 1$
c_6	$u^{26} + 2u^{25} + \cdots - 4u - 1$
c_7, c_8	$u^{26} - u^{25} + \cdots + 23u - 1$
c_9	$u^{26} + 5u^{25} + \cdots - 10u + 1$
c_{10}	$u^{26} + 2u^{25} + \cdots + 13u - 1$
c_{11}	$u^{26} + u^{25} + \cdots - 8u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{26} - 9y^{25} + \cdots - 140y + 1$
c_2, c_{10}	$y^{26} - 10y^{25} + \cdots - 59y + 1$
c_3, c_9	$y^{26} - 13y^{25} + \cdots - 34y + 1$
c_4, c_7, c_8 c_{12}	$y^{26} - 21y^{25} + \cdots - 447y + 1$
c_5, c_6	$y^{26} - 20y^{25} + \cdots - 64y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.950090$ $a=\ \ 2.44637$ $b=\ \ 0.587694$	-0.395278	25.3270
$u=-0.874639+0.343517I$ $a=-0.011752+0.390988I$ $b=-0.812497+0.405432I$	$-1.39544+1.46259I$	$-2.91445-4.27983I$
$u=-0.874639-0.343517I$ $a=-0.011752-0.390988I$ $b=-0.812497-0.405432I$	$-1.39544-1.46259I$	$-2.91445+4.27983I$
$u=-0.833263+0.684908I$ $a=-1.43208+0.78533I$ $b=\ \ 0.642979+0.426629I$	$-1.02397+4.64096I$	$-9.48838-10.08346I$
$u=-0.833263-0.684908I$ $a=-1.43208-0.78533I$ $b=\ \ 0.642979-0.426629I$	$-1.02397-4.64096I$	$-9.48838+10.08346I$
$u=-0.812497+0.405432I$ $a=\ \ 0.922555-0.745467I$ $b=-0.874639+0.343517I$	$1.39544-1.46259I$	$2.91445+4.27983I$
$u=-0.812497-0.405432I$ $a=\ \ 0.922555+0.745467I$ $b=-0.874639-0.343517I$	$1.39544+1.46259I$	$2.91445-4.27983I$
$u=\ \ 1.146090+0.156103I$ $a=-0.040064-0.297211I$ $b=-0.46140-1.79971I$	$-2.18650-6.14715I$	$-6.4601+15.9769I$
$u=\ \ 1.146090-0.156103I$ $a=-0.040064+0.297211I$ $b=-0.46140+1.79971I$	$-2.18650+6.14715I$	$-6.4601-15.9769I$
$u=\ \ 0.642979+0.426629I$ $a=\ \ 1.29715+1.55050I$ $b=-0.833263+0.684908I$	$1.02397-4.64096I$	$9.48838+10.08346I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.642979 - 0.426629I$ $a = 1.29715 - 1.55050I$ $b = -0.833263 - 0.684908I$	$1.02397 + 4.64096I$	$9.48838 - 10.08346I$
$u = -1.24533$ $a = -0.895031$ $b = 1.73856$	-4.38217	-13.4150
$u = 0.694360$ $a = -1.83173$ $b = 1.63134$	7.87830	1.59840
$u = -1.199700 + 0.541349I$ $a = 1.22267 - 1.10957I$ $b = -1.199700 - 0.541349I$	$12.9759I$	$0. - 11.17486I$
$u = -1.199700 - 0.541349I$ $a = 1.22267 + 1.10957I$ $b = -1.199700 + 0.541349I$	$-12.9759I$	$0. + 11.17486I$
$u = 1.250220 + 0.414382I$ $a = -1.09614 - 1.21395I$ $b = 1.250220 - 0.414382I$	$-2.58704I$	$-60.10 + 0.655205I$
$u = 1.250220 - 0.414382I$ $a = -1.09614 + 1.21395I$ $b = 1.250220 + 0.414382I$	$2.58704I$	$-60.10 - 0.655205I$
$u = 0.634835$ $a = 0.389165$ $b = 1.91889$	4.87227	13.6820
$u = 0.587694$ $a = 4.90500$ $b = -0.950090$	0.395278	-25.3270
$u = 1.63134$ $a = 0.0852918$ $b = 0.694360$	-7.87830	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 1.73856$ $a = \ 0.604219$ $b = -1.24533$	4.38217	0
$u = -1.77412$ $a = -0.206211$ $b = \ 0.0482735$	-6.96801	-33.2740
$u = -0.46140 + 1.79971I$ $a = -1.326880 + 0.202721I$ $b = \ 1.146090 - 0.156103I$	$2.18650 - 6.14715I$	0
$u = -0.46140 - 1.79971I$ $a = -1.326880 - 0.202721I$ $b = \ 1.146090 + 0.156103I$	$2.18650 + 6.14715I$	0
$u = \ 1.91889$ $a = -0.763583$ $b = \ 0.634835$	-4.87227	0
$u = \ 0.0482735$ $a = -5.80440$ $b = -1.77412$	6.96801	33.2740

III.

$\boldsymbol{I_3^u = \langle -u^3+b+u-1,\ u^5+4u^4-u^2+3a+3u+2,\ u^6-u^4+2u^3+u^2-u+1\rangle}$

(i) Arc colorings

$$a_4 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ -u^3+u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -\frac{1}{3}u^5 - \frac{4}{3}u^4 + \frac{1}{3}u^2 - u - \frac{2}{3} \\ u^3 - u + 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -\frac{1}{3}u^5 - \frac{4}{3}u^4 + \cdots - 2u + \frac{1}{3} \\ u^3 - u + 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{1}{3}u^5 - \frac{4}{3}u^4 + \cdots - 2u - \frac{2}{3} \\ -u^5 + 2u^3 - u^2 - u + 2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -\frac{1}{3}u^4 + \frac{4}{3}u^3 + \cdots - \frac{1}{3}u + \frac{5}{3} \\ \frac{2}{3}u^5 - \frac{1}{3}u^4 + \frac{4}{3}u^2 + \frac{1}{3} \end{pmatrix}$$

$$a_7 = \begin{pmatrix} \frac{2}{3}u^5 + \frac{2}{3}u^4 + \frac{1}{3}u^2 + u + \frac{1}{3} \\ -u^4 - u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -\frac{1}{3}u^5 - \frac{2}{3}u^4 + \cdots + \frac{2}{3}u^2 - \frac{1}{3}u \\ \frac{2}{3}u^5 + \frac{2}{3}u^4 + \frac{1}{3}u^2 + u + \frac{1}{3} \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -\frac{1}{3}u^4 + \frac{1}{3}u^3 + \cdots - \frac{1}{3}u - \frac{1}{3} \\ -\frac{1}{3}u^5 - \frac{1}{3}u^4 + \cdots - 2u + \frac{4}{3} \end{pmatrix}$$

$$a_6 = \begin{pmatrix} \frac{5}{9}u^5 + \frac{5}{9}u^4 + \cdots + \frac{1}{3}u + \frac{10}{9} \\ \frac{2}{3}u^5 - \frac{4}{3}u^3 + u^2 + \frac{4}{3}u - \frac{1}{3} \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{22}{9}u^5 + \frac{14}{9}u^4 + \frac{13}{3}u^3 - \frac{8}{9}u^2 - \frac{14}{3}u + \frac{28}{9}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^2-u+1)^3$
c_2	$u^6-u^5+2u^4+u^3+u^2-6u+3$
c_3	$3(3u^6-6u^5+10u^4-4u^3+6u^2-u+1)$
c_4, c_{12}	$u^6-u^4-2u^3+u^2+u+1$
c_5	$3(3u^6+9u^5+16u^4+18u^3+14u^2+6u+1)$
c_6	$3(3u^6-9u^5+16u^4-18u^3+14u^2-6u+1)$
c_7, c_8	$u^6-u^4+2u^3+u^2-u+1$
c_9	$3(3u^6+6u^5+10u^4+4u^3+6u^2+u+1)$
c_{10}	$u^6+u^5+2u^4-u^3+u^2+6u+3$
c_{11}	$(u^2+u+1)^3$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$(y^2+y+1)^3$
c_2, c_{10}	$y^6+3y^5+8y^4-3y^3+25y^2-30y+9$
c_3, c_9	$9(9y^6+24y^5+88y^4+98y^3+48y^2+11y+1)$
c_4, c_7, c_8 c_{12}	$y^6-2y^5+3y^4-4y^3+3y^2+y+1$
c_5, c_6	$9(9y^6+15y^5+16y^4+22y^3+12y^2-8y+1)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.176510+0.285314I$ $a=-0.395411+1.018660I$ $b=\ \ 0.835342+0.876227I$	$4.05977I$	$5.93553-4.32228I$
$u=-1.176510-0.285314I$ $a=-0.395411-1.018660I$ $b=\ \ 0.835342-0.876227I$	$-4.05977I$	$5.93553+4.32228I$
$u=\ \ 0.835342+0.876227I$ $a=\ \ 1.86098+0.56645I$ $b=-1.176510+0.285314I$	$-4.05977I$	$-5.93553+4.32228I$
$u=\ \ 0.835342-0.876227I$ $a=\ \ 1.86098-0.56645I$ $b=-1.176510-0.285314I$	$4.05977I$	$-5.93553-4.32228I$
$u=\ \ 0.341164+0.590913I$ $a=-0.965571-0.163531I$ $b=\ \ 0.341164-0.590913I$	$4.05977I$	$0.-3.09490I$
$u=\ \ 0.341164-0.590913I$ $a=-0.965571+0.163531I$ $b=\ \ 0.341164+0.590913I$	$-4.05977I$	$0.+3.09490I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u^2-u+1)^3)(u^{26}-u^{25}+\cdots+8u-1)$ $\cdot(u^{164}+7u^{163}+\cdots-114622u-349484)$
c_2	$(u^6-u^5+2u^4+u^3+u^2-6u+3)(u^{26}-2u^{25}+\cdots-13u-1)$ $\cdot(u^{164}+2u^{163}+\cdots-173301u+10677)$
c_3	$9(3u^6-6u^5+\cdots-u+1)(u^{26}-5u^{25}+\cdots+10u+1)$ $\cdot(3u^{164}+30u^{163}+\cdots-23u-1)$
c_4	$(u^6-u^4-2u^3+u^2+u+1)(u^{26}+u^{25}+\cdots-23u-1)$ $\cdot(u^{164}-2u^{163}+\cdots-3386u+61)$
c_5	$9(3u^6+9u^5+\cdots+6u+1)(u^{26}-2u^{25}+\cdots+4u-1)$ $\cdot(3u^{164}-14u^{162}+\cdots+3228u+43)$
c_6	$9(3u^6-9u^5+\cdots-6u+1)(u^{26}+2u^{25}+\cdots-4u-1)$ $\cdot(3u^{164}-14u^{162}+\cdots-3228u+43)$
c_7	$(u^6-u^4+2u^3+u^2-u+1)(u^{26}-u^{25}+\cdots+23u-1)$ $\cdot(u^{164}+2u^{163}+\cdots+3386u+61)$
c_8	$(u^6-u^4+2u^3+u^2-u+1)(u^{26}-u^{25}+\cdots+23u-1)$ $\cdot(u^{164}-2u^{163}+\cdots-3386u+61)$
c_9	$9(3u^6+6u^5+\cdots+u+1)(u^{26}+5u^{25}+\cdots-10u+1)$ $\cdot(3u^{164}-30u^{163}+\cdots+23u-1)$
c_{10}	$(u^6+u^5+2u^4-u^3+u^2+6u+3)(u^{26}+2u^{25}+\cdots+13u-1)$ $\cdot(u^{164}-2u^{163}+\cdots+173301u+10677)$
c_{11}	$((u^2+u+1)^3)(u^{26}+u^{25}+\cdots-8u-1)$ $\cdot(u^{164}-7u^{163}+\cdots+114622u-349484)$
c_{12}	$(u^6-u^4-2u^3+u^2+u+1)(u^{26}+u^{25}+\cdots-23u-1)$ $\cdot(u^{164}+2u^{163}+\cdots+3386u+61)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$((y^2+y+1)^3)(y^{26}-9y^{25}+\cdots-140y+1)$ $\cdot(y^{164}-41y^{163}+\cdots-4668550960796y+122139066256)$
c_2, c_{10}	$(y^6+3y^5+\cdots-30y+9)(y^{26}-10y^{25}+\cdots-59y+1)$ $\cdot(y^{164}-34y^{163}+\cdots-9384110787y+113998329)$
c_3, c_9	$81(9y^6+24y^5+88y^4+98y^3+48y^2+11y+1)$ $\cdot(y^{26}-13y^{25}+\cdots-34y+1)(9y^{164}+168y^{163}+\cdots-3213y+1)$
c_4, c_7, c_8 c_{12}	$(y^6-2y^5+3y^4-4y^3+3y^2+y+1)(y^{26}-21y^{25}+\cdots-447y+1)$ $\cdot(y^{164}-110y^{163}+\cdots-5163208y+3721)$
c_5, c_6	$81(9y^6+15y^5+16y^4+22y^3+12y^2-8y+1)$ $\cdot(y^{26}-20y^{25}+\cdots-64y+1)$ $\cdot(9y^{164}-84y^{163}+\cdots-11352482y+1849)$