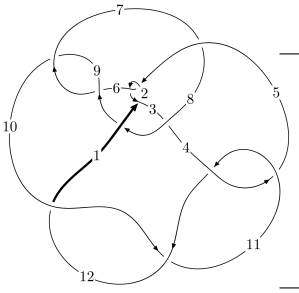
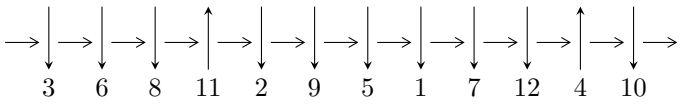
$12a_{0315}$ $(K12a_{0315})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -1.85167 \times 10^{121} u^{114} - 3.72449 \times 10^{121} u^{113} + \cdots + 7.44095 \times 10^{121} b + 3.07946 \times 10^{121},$$
$$-5.89851 \times 10^{121} u^{114} - 8.95585 \times 10^{121} u^{113} + \cdots + 7.44095 \times 10^{121} a - 1.95302 \times 10^{122},$$
$$u^{115} + 2u^{114} + \cdots + 2u - 1 \rangle$$
$$I_2^u = \langle 3u^4 + 4u^3 + 5u^2 + 5b + u,\ -u^4 - u^3 + u^2 + 5a + 3u + 4,\ u^5 + u^4 + 2u^3 + u^2 + u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 120 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. $I_1^u = \langle -1.85 \times 10^{121} u^{114} - 3.72 \times 10^{121} u^{113} + \cdots + 7.44 \times 10^{121} b + 3.08 \times 10^{121},\ -5.90 \times 10^{121} u^{114} - 8.96 \times 10^{121} u^{113} + \cdots + 7.44 \times 10^{121} a - 1.95 \times 10^{122},\ u^{115} + 2u^{114} + \cdots + 2u - 1 \rangle$

(i) Arc colorings

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

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

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

$$a_8 = \begin{pmatrix} 0.792709u^{114} + 1.20359u^{113} + \cdots - 4.75680u + 2.62469 \\ 0.248849u^{114} + 0.500539u^{113} + \cdots + 3.03902u - 0.413853 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 1.62371u^{114} + 2.67004u^{113} + \cdots - 3.94611u + 0.349188 \\ -0.816496u^{114} - 1.64935u^{113} + \cdots + 1.57453u - 0.0503323 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1.04156u^{114} + 1.70413u^{113} + \cdots - 1.71778u + 2.21083 \\ 0.248849u^{114} + 0.500539u^{113} + \cdots + 3.03902u - 0.413853 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^3 \\ u^5 + u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^5 + u \\ u^7 + u^5 + 2u^3 + u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.495778u^{114} + 0.152549u^{113} + \cdots + 2.54880u - 1.59091 \\ 0.430896u^{114} + 0.364813u^{113} + \cdots - 0.748946u + 0.656296 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1.35088u^{114} + 2.29904u^{113} + \cdots - 4.32285u + 2.45638 \\ 0.219430u^{114} + 0.633152u^{113} + \cdots + 4.57775u - 0.762711 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.580563u^{114} - 1.39437u^{113} + \cdots + 4.59835u - 0.240154 \\ -0.143312u^{114} - 0.582118u^{113} + \cdots - 1.63332u + 0.499825 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -5.26127u^{114} - 13.4625u^{113} + \cdots - 1.05644u - 6.56776$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{115}+52u^{114}+\cdots+8u+1$
c_2, c_5	$u^{115}+2u^{114}+\cdots+4u+1$
c_3	$u^{115}+u^{114}+\cdots-4000u+20000$
c_4, c_{11}	$u^{115}-2u^{114}+\cdots+2u+1$
c_6, c_9	$u^{115}-6u^{114}+\cdots-6050u+625$
c_7	$25(25u^{115}+1297u^{113}+\cdots-6356084u+531211)$
c_8	$25(25u^{115}+25u^{114}+\cdots+165472u+46912)$
c_{10}, c_{12}	$u^{115}+36u^{114}+\cdots+8u-1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{115}+24y^{114}+\cdots-4y-1$
c_2, c_5	$y^{115}-52y^{114}+\cdots+8y-1$
c_3	$y^{115}+33y^{114}+\cdots+2280000000y-400000000$
c_4, c_{11}	$y^{115}+36y^{114}+\cdots+8y-1$
c_6, c_9	$y^{115}-64y^{114}+\cdots-9508750y-390625$
c_7	625 $\cdot(625y^{115}+64850y^{114}+\cdots+4263135428918y-282185126521)$
c_8	$625(625y^{115}-37225y^{114}+\cdots-4.94556\times10^{10}y-2.20074\times10^{9})$
c_{10}, c_{12}	$y^{115}+88y^{114}+\cdots+180y-1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.231824 + 0.953832I$ $a = -2.46206 + 0.91607I$ $b = 0.596166 - 0.796359I$	$-0.78095 + 7.32794I$	0
$u = 0.231824 - 0.953832I$ $a = -2.46206 - 0.91607I$ $b = 0.596166 + 0.796359I$	$-0.78095 - 7.32794I$	0
$u = -0.262847 + 0.932497I$ $a = 1.91342 + 0.84423I$ $b = -0.370130 - 0.643087I$	$0.61191 - 2.36422I$	0
$u = -0.262847 - 0.932497I$ $a = 1.91342 - 0.84423I$ $b = -0.370130 + 0.643087I$	$0.61191 + 2.36422I$	0
$u = 0.719284 + 0.761224I$ $a = -0.455850 - 1.230130I$ $b = -0.384714 - 0.124611I$	$-0.13012 - 4.17483I$	0
$u = 0.719284 - 0.761224I$ $a = -0.455850 + 1.230130I$ $b = -0.384714 + 0.124611I$	$-0.13012 + 4.17483I$	0
$u = 0.679610 + 0.799058I$ $a = -1.17140 - 1.41956I$ $b = 0.495600 - 0.123968I$	$-1.60723 + 1.91504I$	0
$u = 0.679610 - 0.799058I$ $a = -1.17140 + 1.41956I$ $b = 0.495600 + 0.123968I$	$-1.60723 - 1.91504I$	0
$u = -0.082837 + 0.941587I$ $a = 2.46261 - 1.38632I$ $b = -0.990156 - 0.172748I$	$-5.35130 - 4.97918I$	0
$u = -0.082837 - 0.941587I$ $a = 2.46261 + 1.38632I$ $b = -0.990156 + 0.172748I$	$-5.35130 + 4.97918I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.814912+0.678676I$ $a=-0.199202+0.199306I$ $b=\ \ 0.110561+1.268530I$	$4.77410-2.66895I$	0
$u=-0.814912-0.678676I$ $a=-0.199202-0.199306I$ $b=\ \ 0.110561-1.268530I$	$4.77410+2.66895I$	0
$u=-0.031070+0.935882I$ $a=\ \ 1.05114-1.63997I$ $b=-0.443506-0.129637I$	$-6.14284+1.16940I$	0
$u=-0.031070-0.935882I$ $a=\ \ 1.05114+1.63997I$ $b=-0.443506+0.129637I$	$-6.14284-1.16940I$	0
$u=-0.646217+0.859121I$ $a=\ \ 1.74516-1.15528I$ $b=-1.208750+0.062952I$	$-2.57690+0.59772I$	0
$u=-0.646217-0.859121I$ $a=\ \ 1.74516+1.15528I$ $b=-1.208750-0.062952I$	$-2.57690-0.59772I$	0
$u=-0.732062+0.787501I$ $a=\ \ 0.687215-0.808553I$ $b=\ \ 0.329674-0.594451I$	$1.59979-0.04409I$	0
$u=-0.732062-0.787501I$ $a=\ \ 0.687215+0.808553I$ $b=\ \ 0.329674+0.594451I$	$1.59979+0.04409I$	0
$u=-0.099706+1.078560I$ $a=-0.48505-1.37837I$ $b=\ \ 0.203969+0.981425I$	$-0.66867-2.87209I$	0
$u=-0.099706-1.078560I$ $a=-0.48505+1.37837I$ $b=\ \ 0.203969-0.981425I$	$-0.66867+2.87209I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.156085 + 0.900887I$ $a = -2.53802 - 0.37596I$ $b = 0.966548 - 0.328199I$	$-3.59301 + 1.68133I$	0
$u = 0.156085 - 0.900887I$ $a = -2.53802 + 0.37596I$ $b = 0.966548 + 0.328199I$	$-3.59301 - 1.68133I$	0
$u = 0.846369 + 0.687021I$ $a = 0.202537 + 0.074386I$ $b = 0.247444 + 1.370760I$	$5.98557 - 3.08518I$	0
$u = 0.846369 - 0.687021I$ $a = 0.202537 - 0.074386I$ $b = 0.247444 - 1.370760I$	$5.98557 + 3.08518I$	0
$u = 0.120992 + 0.896882I$ $a = -0.30902 - 1.97202I$ $b = 0.286071 + 1.066620I$	$-1.07660 - 2.43604I$	0
$u = 0.120992 - 0.896882I$ $a = -0.30902 + 1.97202I$ $b = 0.286071 - 1.066620I$	$-1.07660 + 2.43604I$	0
$u = 0.078739 + 0.893461I$ $a = -2.18286 - 0.57596I$ $b = 0.992060 - 0.472687I$	$-3.51720 + 1.23198I$	0
$u = 0.078739 - 0.893461I$ $a = -2.18286 + 0.57596I$ $b = 0.992060 + 0.472687I$	$-3.51720 - 1.23198I$	0
$u = 0.683059 + 0.873025I$ $a = -1.12060 - 1.09313I$ $b = 1.48924 + 0.10894I$	$-0.36733 + 2.63401I$	0
$u = 0.683059 - 0.873025I$ $a = -1.12060 + 1.09313I$ $b = 1.48924 - 0.10894I$	$-0.36733 - 2.63401I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.870156 + 0.172696I$ $a = -0.0912549 - 0.0114818I$ $b = -0.438004 + 0.516951I$	$-4.21088 + 0.70500I$	0
$u = 0.870156 - 0.172696I$ $a = -0.0912549 + 0.0114818I$ $b = -0.438004 - 0.516951I$	$-4.21088 - 0.70500I$	0
$u = -0.659858 + 0.899578I$ $a = 1.52640 - 0.24867I$ $b = -1.090120 + 0.070208I$	$-2.72537 - 5.66569I$	0
$u = -0.659858 - 0.899578I$ $a = 1.52640 + 0.24867I$ $b = -1.090120 - 0.070208I$	$-2.72537 + 5.66569I$	0
$u = -0.749840 + 0.829632I$ $a = 1.350280 + 0.409157I$ $b = 1.01467 - 1.70820I$	$2.33638 - 0.47130I$	0
$u = -0.749840 - 0.829632I$ $a = 1.350280 - 0.409157I$ $b = 1.01467 + 1.70820I$	$2.33638 + 0.47130I$	0
$u = -0.822875 + 0.764427I$ $a = -0.391586 + 0.012215I$ $b = 0.88291 - 1.12333I$	$5.95773 + 6.05581I$	0
$u = -0.822875 - 0.764427I$ $a = -0.391586 - 0.012215I$ $b = 0.88291 + 1.12333I$	$5.95773 - 6.05581I$	0
$u = -0.791646 + 0.800114I$ $a = 0.0681291 - 0.0048683I$ $b = 0.807966 - 0.785235I$	$2.31006 + 0.02277I$	0
$u = -0.791646 - 0.800114I$ $a = 0.0681291 + 0.0048683I$ $b = 0.807966 + 0.785235I$	$2.31006 - 0.02277I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.877305 + 0.708965I$ $a = 0.125553 - 0.108050I$ $b = 0.94576 + 1.42038I$	$4.88341 - 7.17921I$	0
$u = 0.877305 - 0.708965I$ $a = 0.125553 + 0.108050I$ $b = 0.94576 - 1.42038I$	$4.88341 + 7.17921I$	0
$u = -0.889873 + 0.693456I$ $a = -0.0644567 - 0.0226712I$ $b = -0.802417 + 1.025230I$	$-1.07673 + 4.48539I$	0
$u = -0.889873 - 0.693456I$ $a = -0.0644567 + 0.0226712I$ $b = -0.802417 - 1.025230I$	$-1.07673 - 4.48539I$	0
$u = 0.747735 + 0.848567I$ $a = -3.17279 + 1.04812I$ $b = -1.29640 - 4.15597I$	$1.68826 + 4.75505I$	0
$u = 0.747735 - 0.848567I$ $a = -3.17279 - 1.04812I$ $b = -1.29640 + 4.15597I$	$1.68826 - 4.75505I$	0
$u = 0.241160 + 1.108160I$ $a = 2.16055 - 0.75457I$ $b = -1.16119 + 0.96512I$	$-4.80644 + 12.94150I$	0
$u = 0.241160 - 1.108160I$ $a = 2.16055 + 0.75457I$ $b = -1.16119 - 0.96512I$	$-4.80644 - 12.94150I$	0
$u = -0.227858 + 1.111020I$ $a = -1.84536 - 0.85683I$ $b = 0.979988 + 0.954915I$	$-2.58436 - 7.22243I$	0
$u = -0.227858 - 1.111020I$ $a = -1.84536 + 0.85683I$ $b = 0.979988 - 0.954915I$	$-2.58436 + 7.22243I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.829120 + 0.774149I$ $a = 0.315506 + 0.088053I$ $b = -0.732646 - 1.094480I$	$7.49710 - 0.85393I$	0
$u = 0.829120 - 0.774149I$ $a = 0.315506 - 0.088053I$ $b = -0.732646 + 1.094480I$	$7.49710 + 0.85393I$	0
$u = -0.881740 + 0.714170I$ $a = -0.090486 - 0.148849I$ $b = -1.14088 + 1.41196I$	$2.75920 + 12.82710I$	0
$u = -0.881740 - 0.714170I$ $a = -0.090486 + 0.148849I$ $b = -1.14088 - 1.41196I$	$2.75920 - 12.82710I$	0
$u = 0.688094 + 0.929601I$ $a = -0.419814 + 0.892789I$ $b = 0.265970 + 0.325650I$	$-2.01818 + 3.37967I$	0
$u = 0.688094 - 0.929601I$ $a = -0.419814 - 0.892789I$ $b = 0.265970 - 0.325650I$	$-2.01818 - 3.37967I$	0
$u = 0.351802 + 1.104650I$ $a = 0.31481 + 1.42375I$ $b = -0.747838 - 0.529760I$	$-4.15815 - 5.61157I$	0
$u = 0.351802 - 1.104650I$ $a = 0.31481 - 1.42375I$ $b = -0.747838 + 0.529760I$	$-4.15815 + 5.61157I$	0
$u = 0.739725 + 0.897296I$ $a = 4.36688 + 0.96638I$ $b = -2.03502 + 5.62532I$	$1.53888 + 0.89181I$	0
$u = 0.739725 - 0.897296I$ $a = 4.36688 - 0.96638I$ $b = -2.03502 - 5.62532I$	$1.53888 - 0.89181I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.395665+1.097030I$ $a=\ 0.017649+1.133270I$ $b=\ 0.550820-0.485400I$	$-1.63066-0.10437I$	0
$u=-0.395665-1.097030I$ $a=\ 0.017649-1.133270I$ $b=\ 0.550820+0.485400I$	$-1.63066+0.10437I$	0
$u=\ 0.852961+0.805684I$ $a=\ 0.189912+0.218450I$ $b=-0.369955-0.833667I$	$6.76805+1.81713I$	0
$u=\ 0.852961-0.805684I$ $a=\ 0.189912-0.218450I$ $b=-0.369955+0.833667I$	$6.76805-1.81713I$	0
$u=-0.736891+0.914102I$ $a=-1.71511+1.24495I$ $b=\ 1.53035+2.03390I$	$2.07779-5.17426I$	0
$u=-0.736891-0.914102I$ $a=-1.71511-1.24495I$ $b=\ 1.53035-2.03390I$	$2.07779+5.17426I$	0
$u=\ 0.235020+1.153700I$ $a=\ 1.379800-0.258658I$ $b=-0.858017+0.551376I$	$-8.71701+4.21406I$	0
$u=\ 0.235020-1.153700I$ $a=\ 1.379800+0.258658I$ $b=-0.858017-0.551376I$	$-8.71701-4.21406I$	0
$u=-0.715019+0.938235I$ $a=-0.652037+1.198240I$ $b=\ 0.477053+0.760624I$	$1.14158-5.48296I$	0
$u=-0.715019-0.938235I$ $a=-0.652037-1.198240I$ $b=\ 0.477053-0.760624I$	$1.14158+5.48296I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.704427 + 0.950630I$ $a = 0.35943 + 1.69590I$ $b = -0.511142 + 0.319310I$	$-0.70091 + 9.63596I$	0
$u = 0.704427 - 0.950630I$ $a = 0.35943 - 1.69590I$ $b = -0.511142 - 0.319310I$	$-0.70091 - 9.63596I$	0
$u = -0.882104 + 0.813983I$ $a = -0.166014 + 0.228393I$ $b = 0.096019 - 0.688738I$	$4.46500 - 6.90957I$	0
$u = -0.882104 - 0.813983I$ $a = -0.166014 - 0.228393I$ $b = 0.096019 + 0.688738I$	$4.46500 + 6.90957I$	0
$u = 0.789723 + 0.079260I$ $a = -0.117294 - 0.153795I$ $b = -0.786616 + 0.935066I$	$-0.82292 + 9.58153I$	$-6.99384 - 7.63586I$
$u = 0.789723 - 0.079260I$ $a = -0.117294 + 0.153795I$ $b = -0.786616 - 0.935066I$	$-0.82292 - 9.58153I$	$-6.99384 + 7.63586I$
$u = -0.750613 + 0.952129I$ $a = -1.28098 + 1.07814I$ $b = 0.964262 + 0.758591I$	$1.83796 - 5.83738I$	0
$u = -0.750613 - 0.952129I$ $a = -1.28098 - 1.07814I$ $b = 0.964262 - 0.758591I$	$1.83796 + 5.83738I$	0
$u = -0.776511 + 0.107568I$ $a = 0.162160 - 0.106138I$ $b = 0.575735 + 0.918049I$	$1.48739 - 3.97707I$	$-3.55800 + 4.34858I$
$u = -0.776511 - 0.107568I$ $a = 0.162160 + 0.106138I$ $b = 0.575735 - 0.918049I$	$1.48739 + 3.97707I$	$-3.55800 - 4.34858I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.260461+0.725031I$ $a=\ \ 0.809211-0.131467I$ $b=-0.149474+0.142541I$	$-0.379020-1.191680I$	$-4.70355+5.46552I$
$u=-0.260461-0.725031I$ $a=\ \ 0.809211+0.131467I$ $b=-0.149474-0.142541I$	$-0.379020+1.191680I$	$-4.70355-5.46552I$
$u=-0.756696+0.980095I$ $a=-2.02487+0.82655I$ $b=\ \ 0.96401+1.03744I$	$5.29392-11.97440I$	0
$u=-0.756696-0.980095I$ $a=-2.02487-0.82655I$ $b=\ \ 0.96401-1.03744I$	$5.29392+11.97440I$	0
$u=\ \ 0.763871+0.976961I$ $a=\ \ 1.83341+0.62378I$ $b=-0.834882+0.993362I$	$6.87081+6.81407I$	0
$u=\ \ 0.763871-0.976961I$ $a=\ \ 1.83341-0.62378I$ $b=-0.834882-0.993362I$	$6.87081-6.81407I$	0
$u=\ \ 0.790765+0.965591I$ $a=\ \ 1.195680+0.246185I$ $b=-0.538179+0.686419I$	$6.26803+4.29794I$	0
$u=\ \ 0.790765-0.965591I$ $a=\ \ 1.195680-0.246185I$ $b=-0.538179-0.686419I$	$6.26803-4.29794I$	0
$u=-0.715269+1.030230I$ $a=\ \ 1.304450+0.320256I$ $b=-0.028786-1.211300I$	$3.69675-3.09351I$	0
$u=-0.715269-1.030230I$ $a=\ \ 1.304450-0.320256I$ $b=-0.028786+1.211300I$	$3.69675+3.09351I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.111077 + 0.731043I$ $a = -3.99761 - 4.11972I$ $b = 2.36476 + 1.68976I$	$-2.72278 + 1.85710I$	$-20.2284 - 21.3976I$
$u = 0.111077 - 0.731043I$ $a = -3.99761 + 4.11972I$ $b = 2.36476 - 1.68976I$	$-2.72278 - 1.85710I$	$-20.2284 + 21.3976I$
$u = 0.737371 + 1.031700I$ $a = -1.57828 + 0.00884I$ $b = 0.39482 - 1.36019I$	$4.92945 + 9.00434I$	0
$u = 0.737371 - 1.031700I$ $a = -1.57828 - 0.00884I$ $b = 0.39482 + 1.36019I$	$4.92945 - 9.00434I$	0
$u = -0.821203 + 0.971075I$ $a = -0.820042 - 0.054088I$ $b = 0.246900 + 0.462452I$	$3.97657 + 0.61648I$	0
$u = -0.821203 - 0.971075I$ $a = -0.820042 + 0.054088I$ $b = 0.246900 - 0.462452I$	$3.97657 - 0.61648I$	0
$u = 0.759832 + 1.030770I$ $a = -1.94134 - 0.64692I$ $b = 1.08828 - 1.43389I$	$3.88825 + 13.25810I$	0
$u = 0.759832 - 1.030770I$ $a = -1.94134 + 0.64692I$ $b = 1.08828 + 1.43389I$	$3.88825 - 13.25810I$	0
$u = -0.763765 + 1.030340I$ $a = 2.01617 - 0.83875I$ $b = -1.27696 - 1.42115I$	$1.7792 - 18.9323I$	0
$u = -0.763765 - 1.030340I$ $a = 2.01617 + 0.83875I$ $b = -1.27696 + 1.42115I$	$1.7792 + 18.9323I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.759147+1.041600I$ $a=\ \ 1.49398-0.67166I$ $b=-0.94279-1.05428I$	$-2.15269-10.59310I$	0
$u=-0.759147-1.041600I$ $a=\ \ 1.49398+0.67166I$ $b=-0.94279+1.05428I$	$-2.15269+10.59310I$	0
$u=\ \ 0.486003+1.213410I$ $a=-0.014042+0.470500I$ $b=-0.338466-0.261282I$	$-7.46853+4.22982I$	0
$u=\ \ 0.486003-1.213410I$ $a=-0.014042-0.470500I$ $b=-0.338466+0.261282I$	$-7.46853-4.22982I$	0
$u=-0.620002+0.111838I$ $a=\ \ 0.361537+0.088056I$ $b=-0.140728+1.022380I$	$3.19465-0.64518I$	$-0.51351+2.30029I$
$u=-0.620002-0.111838I$ $a=\ \ 0.361537-0.088056I$ $b=-0.140728-1.022380I$	$3.19465+0.64518I$	$-0.51351-2.30029I$
$u=\ \ 0.581899+0.059252I$ $a=-0.463506+0.204086I$ $b=\ \ 0.438345+1.073690I$	$2.00809-4.57133I$	$-2.79082+4.02623I$
$u=\ \ 0.581899-0.059252I$ $a=-0.463506-0.204086I$ $b=\ \ 0.438345-1.073690I$	$2.00809+4.57133I$	$-2.79082-4.02623I$
$u=-0.183812+0.359179I$ $a=\ \ 0.00512-4.27303I$ $b=-0.723848+1.134910I$	$-2.84559+1.64555I$	$-3.82019-3.15286I$
$u=-0.183812-0.359179I$ $a=\ \ 0.00512+4.27303I$ $b=-0.723848-1.134910I$	$-2.84559-1.64555I$	$-3.82019+3.15286I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.352590+0.195531I$ $a=-0.18774-2.41620I$ $b=-1.207430+0.351597I$	$-2.18450-3.74259I$	$-7.40219+5.01666I$
$u=-0.352590-0.195531I$ $a=-0.18774+2.41620I$ $b=-1.207430-0.351597I$	$-2.18450+3.74259I$	$-7.40219-5.01666I$
$u=\ 0.355795+0.057281I$ $a=\ 0.596264-1.005330I$ $b=\ 0.877622-0.070652I$	$-1.042440-0.056562I$	$-6.41884-0.08360I$
$u=\ 0.355795-0.057281I$ $a=\ 0.596264+1.005330I$ $b=\ 0.877622+0.070652I$	$-1.042440+0.056562I$	$-6.41884+0.08360I$
$u=\ 0.306574$ $a=\ 1.28740$ $b=\ 0.730989$	-1.07499	-8.21820

II. $I_2^u =$
$\langle 3u^4+4u^3+5u^2+5b+u,\ -u^4-u^3+u^2+5a+3u+4,\ u^5+u^4+2u^3+u^2+u+1\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} \frac{1}{5}u^4 + \frac{1}{5}u^3 + \cdots - \frac{3}{5}u - \frac{4}{5} \\ -\frac{3}{5}u^4 - \frac{4}{5}u^3 - u^2 - \frac{1}{5}u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -\frac{2}{5}u^4 - \frac{3}{5}u^3 + \cdots - \frac{4}{5}u - \frac{4}{5} \\ -\frac{3}{5}u^4 - \frac{4}{5}u^3 - u^2 - \frac{1}{5}u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u^3 \\ -u^4 - u^3 - u^2 - 1 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -u^4 - 2u^3 - u^2 - 1 \\ u^4 + 2u^3 + 2u \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^3 \\ u^3 + u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -\frac{2}{5}u^4 + \frac{2}{5}u^3 + \cdots - \frac{4}{5}u - \frac{4}{5} \\ -\frac{8}{5}u^4 - \frac{9}{5}u^3 - 2u^2 - \frac{1}{5}u - 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^3 \\ u^4 + u^3 + u^2 + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 8u^4 - \frac{61}{25}u^3 + \frac{27}{25}u^2 + \frac{2}{5}u - \frac{277}{25}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^5 - 5u^4 + 8u^3 - 3u^2 - u - 1$
c_2	$u^5 + u^4 - 2u^3 - u^2 + u - 1$
c_3	u^5
c_4	$u^5 + u^4 + 2u^3 + u^2 + u + 1$
c_5	$u^5 - u^4 - 2u^3 + u^2 + u + 1$
c_6	$(u-1)^5$
c_7	$25(25u^5 + 25u^4 - 17u^3 - 10u^2 + 7u - 1)$
c_8	$25(25u^5 - 3u^3 - 2u^2 - 2u - 1)$
c_9	$(u+1)^5$
c_{10}	$u^5 - 3u^4 + 4u^3 - u^2 - u + 1$
c_{11}	$u^5 - u^4 + 2u^3 - u^2 + u - 1$
c_{12}	$u^5 + 3u^4 + 4u^3 + u^2 - u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^5 - 9y^4 + 32y^3 - 35y^2 - 5y - 1$
c_2, c_5	$y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1$
c_3	y^5
c_4, c_{11}	$y^5 + 3y^4 + 4y^3 + y^2 - y - 1$
c_6, c_9	$(y-1)^5$
c_7	$625(625y^5 - 1475y^4 + 1139y^3 - 288y^2 + 29y - 1)$
c_8	$625(625y^5 - 150y^4 - 91y^3 + 8y^2 - 1)$
c_{10}, c_{12}	$y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.339110 + 0.822375I$ $a = -1.020220 - 0.784696I$ $b = 1.010320 - 0.128572I$	$-1.97403 + 1.53058I$	$-9.93512 - 3.41297I$
$u = 0.339110 - 0.822375I$ $a = -1.020220 + 0.784696I$ $b = 1.010320 + 0.128572I$	$-1.97403 - 1.53058I$	$-9.93512 + 3.41297I$
$u = -0.766826$ $a = -0.478537$ $b = -0.281390$	-4.04602	-6.88530
$u = -0.455697 + 1.200150I$ $a = 0.159483 - 0.158187I$ $b = -0.369623 + 0.020554I$	$-7.51750 - 4.40083I$	$-14.5822 + 23.2659I$
$u = -0.455697 - 1.200150I$ $a = 0.159483 + 0.158187I$ $b = -0.369623 - 0.020554I$	$-7.51750 + 4.40083I$	$-14.5822 - 23.2659I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^5-5u^4+8u^3-3u^2-u-1)(u^{115}+52u^{114}+\cdots+8u+1)$
c_2	$(u^5+u^4-2u^3-u^2+u-1)(u^{115}+2u^{114}+\cdots+4u+1)$
c_3	$u^5(u^{115}+u^{114}+\cdots-4000u+20000)$
c_4	$(u^5+u^4+2u^3+u^2+u+1)(u^{115}-2u^{114}+\cdots+2u+1)$
c_5	$(u^5-u^4-2u^3+u^2+u+1)(u^{115}+2u^{114}+\cdots+4u+1)$
c_6	$((u-1)^5)(u^{115}-6u^{114}+\cdots-6050u+625)$
c_7	$625(25u^5+25u^4-17u^3-10u^2+7u-1)$ $\cdot(25u^{115}+1297u^{113}+\cdots-6356084u+531211)$
c_8	$625(25u^5-3u^3-2u^2-2u-1)$ $\cdot(25u^{115}+25u^{114}+\cdots+165472u+46912)$
c_9	$((u+1)^5)(u^{115}-6u^{114}+\cdots-6050u+625)$
c_{10}	$(u^5-3u^4+4u^3-u^2-u+1)(u^{115}+36u^{114}+\cdots+8u-1)$
c_{11}	$(u^5-u^4+2u^3-u^2+u-1)(u^{115}-2u^{114}+\cdots+2u+1)$
c_{12}	$(u^5+3u^4+4u^3+u^2-u-1)(u^{115}+36u^{114}+\cdots+8u-1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^5-9y^4+32y^3-35y^2-5y-1)(y^{115}+24y^{114}+\cdots-4y-1)$
c_2, c_5	$(y^5-5y^4+8y^3-3y^2-y-1)(y^{115}-52y^{114}+\cdots+8y-1)$
c_3	$y^5(y^{115}+33y^{114}+\cdots+2.28000\times10^9y-4.00000\times10^8)$
c_4, c_{11}	$(y^5+3y^4+4y^3+y^2-y-1)(y^{115}+36y^{114}+\cdots+8y-1)$
c_6, c_9	$((y-1)^5)(y^{115}-64y^{114}+\cdots-9508750y-390625)$
c_7	$390625(625y^5-1475y^4+1139y^3-288y^2+29y-1)$ $\cdot(625y^{115}+64850y^{114}+\cdots+4263135428918y-282185126521)$
c_8	$390625(625y^5-150y^4-91y^3+8y^2-1)$ $\cdot(625y^{115}-37225y^{114}+\cdots-49455619072y-2200735744)$
c_{10}, c_{12}	$(y^5-y^4+8y^3-3y^2+3y-1)(y^{115}+88y^{114}+\cdots+180y-1)$