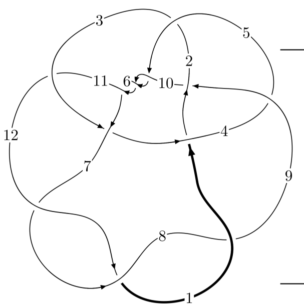
$12a_{0819}$ ($K12a_{0819}$)



A knot diagram[1]

Linearized knot diagam

$\rightarrow\downarrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\uparrow\rightarrow$

4 5 7 9 10 11 12 1 2 6 3 8

Solving Sequence

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

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

$$I_1^u = \langle 9.81389 \times 10^{215} u^{101} - 1.43564 \times 10^{216} u^{100} + \cdots + 8.44851 \times 10^{215} b + 1.19663 \times 10^{217},$$
$$- 2.45404 \times 10^{217} u^{101} + 2.90155 \times 10^{217} u^{100} + \cdots + 4.22426 \times 10^{216} a - 2.42146 \times 10^{218},$$
$$u^{102} - u^{101} + \cdots + 18u + 1\rangle$$
$$I_2^u = \langle u^{15} - 9u^{13} + u^{12} + 33u^{11} - 6u^{10} - 61u^9 + 11u^8 + 54u^7 - 2u^6 - 13u^5 - 11u^4 - 5u^3 + 6u^2 + b - u,$$
$$5u^{15} - 340u^{14} + \cdots + 361a - 237,$$
$$u^{16} - u^{15} - 9u^{14} + 9u^{13} + 33u^{12} - 32u^{11} - 62u^{10} + 53u^9 + 61u^8 - 32u^7 - 28u^6 - 11u^5 + 4u^4 + 13u^3 + u +$$
$$I_3^u = \langle b - 1,\ a + u + 2,\ u^2 + u - 1\rangle$$

* 3 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. $\boldsymbol{I_1^u = \langle 9.81 \times 10^{215} u^{101} - 1.44 \times 10^{216} u^{100} + \cdots + 8.45 \times 10^{215} b + 1.20 \times 10^{217},\ -2.45 \times 10^{217} u^{101} + 2.90 \times 10^{217} u^{100} + \cdots + 4.22 \times 10^{216} a - 2.42 \times 10^{218},\ u^{102} - u^{101} + \cdots + 18u + 1 \rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 5.80939u^{101} - 6.86878u^{100} + \cdots + 523.205u + 57.3228 \\ -1.16161u^{101} + 1.69928u^{100} + \cdots - 146.794u - 14.1638 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 17.1128u^{101} - 19.5202u^{100} + \cdots + 1275.28u + 124.279 \\ -2.65881u^{101} + 3.09872u^{100} + \cdots - 216.087u - 19.4356 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^2 + 1 \\ u^4 - 2u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 4.60503u^{101} - 5.11479u^{100} + \cdots + 386.505u + 44.5732 \\ -1.25041u^{101} + 1.65858u^{100} + \cdots - 144.962u - 13.8921 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 4.64778u^{101} - 5.16950u^{100} + \cdots + 376.411u + 43.1589 \\ -1.16161u^{101} + 1.69928u^{100} + \cdots - 146.794u - 14.1638 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 9.69143u^{101} - 11.7940u^{100} + \cdots + 697.904u + 71.4195 \\ -2.46283u^{101} + 2.72548u^{100} + \cdots - 193.856u - 17.8946 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 21.5584u^{101} - 23.9838u^{100} + \cdots + 1850.82u + 175.409 \\ -1.80773u^{101} + 1.92185u^{100} + \cdots - 143.234u - 14.0282 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -25.0084u^{101} + 29.3750u^{100} + \cdots - 1856.25u - 168.712 \\ 2.27979u^{101} - 2.77364u^{100} + \cdots + 167.806u + 16.0557 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -14.2614u^{101} + 16.1606u^{100} + \cdots - 745.362u - 63.3257$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{102} + 8u^{101} + \cdots + 2562u - 279$
c_2	$u^{102} - 8u^{101} + \cdots - 2562u - 279$
c_3	$u^{102} + 3u^{101} + \cdots + 27u - 1$
c_4	$u^{102} - u^{101} + \cdots + 1378u + 1357$
c_5, c_6, c_{10}	$u^{102} - u^{101} + \cdots + 18u + 1$
c_7, c_8, c_{12}	$u^{102} + u^{101} + \cdots - 18u + 1$
c_9	$u^{102} + u^{101} + \cdots - 1378u + 1357$
c_{11}	$u^{102} - 3u^{101} + \cdots - 27u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2	$y^{102} + 18y^{101} + \cdots + 642168y + 77841$
c_3, c_{11}	$y^{102} - 5y^{101} + \cdots - 1355y + 1$
c_4, c_9	$y^{102} - 33y^{101} + \cdots - 92622476y + 1841449$
c_5, c_6, c_7 c_8, c_{10}, c_{12}	$y^{102} - 109y^{101} + \cdots - 154y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.421881 + 0.913460I$ $a = -0.165545 - 0.490628I$ $b = 0.888810 - 0.537019I$	$-8.03164 + 7.68352I$	0
$u = -0.421881 - 0.913460I$ $a = -0.165545 + 0.490628I$ $b = 0.888810 + 0.537019I$	$-8.03164 - 7.68352I$	0
$u = 0.948769 + 0.365737I$ $a = 0.663232 + 0.274203I$ $b = 1.233530 - 0.266394I$	$-4.88209 - 0.50422I$	0
$u = 0.948769 - 0.365737I$ $a = 0.663232 - 0.274203I$ $b = 1.233530 + 0.266394I$	$-4.88209 + 0.50422I$	0
$u = -0.649076 + 0.789280I$ $a = 0.353140 - 0.770907I$ $b = 1.18870 + 0.83480I$	$-7.3328 - 13.2263I$	0
$u = -0.649076 - 0.789280I$ $a = 0.353140 + 0.770907I$ $b = 1.18870 - 0.83480I$	$-7.3328 + 13.2263I$	0
$u = 0.656934 + 0.801294I$ $a = -0.230937 - 0.577852I$ $b = -0.860693 + 0.757017I$	$9.25295I$	0
$u = 0.656934 - 0.801294I$ $a = -0.230937 + 0.577852I$ $b = -0.860693 - 0.757017I$	$-9.25295I$	0
$u = -0.618166 + 0.738762I$ $a = -0.455893 + 0.460022I$ $b = -0.586392 - 0.519509I$	$1.45177 - 2.24448I$	0
$u = -0.618166 - 0.738762I$ $a = -0.455893 - 0.460022I$ $b = -0.586392 + 0.519509I$	$1.45177 + 2.24448I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.748254 + 0.536631I$ $a = 1.006120 - 0.725807I$ $b = -0.816259 - 0.391671I$	$-7.39412 - 1.87601I$	0
$u = 0.748254 - 0.536631I$ $a = 1.006120 + 0.725807I$ $b = -0.816259 + 0.391671I$	$-7.39412 + 1.87601I$	0
$u = 0.356069 + 1.033270I$ $a = 0.118651 - 0.235636I$ $b = -0.441341 - 0.229273I$	$-0.84908 - 3.47127I$	0
$u = 0.356069 - 1.033270I$ $a = 0.118651 + 0.235636I$ $b = -0.441341 + 0.229273I$	$-0.84908 + 3.47127I$	0
$u = -0.631769 + 0.896852I$ $a = 0.037064 - 0.290429I$ $b = 0.365478 + 0.498966I$	$0.84908 - 3.47127I$	0
$u = -0.631769 - 0.896852I$ $a = 0.037064 + 0.290429I$ $b = 0.365478 - 0.498966I$	$0.84908 + 3.47127I$	0
$u = -0.847496 + 0.274573I$ $a = -0.446501 + 0.051731I$ $b = -0.886146 - 0.010622I$	$0.652997 + 0.202759I$	0
$u = -0.847496 - 0.274573I$ $a = -0.446501 - 0.051731I$ $b = -0.886146 + 0.010622I$	$0.652997 - 0.202759I$	0
$u = 0.446889 + 0.764035I$ $a = 0.953721 + 0.634503I$ $b = 0.917901 - 0.731514I$	$-3.55803 + 4.98722I$	0
$u = 0.446889 - 0.764035I$ $a = 0.953721 - 0.634503I$ $b = 0.917901 + 0.731514I$	$-3.55803 - 4.98722I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.607479 + 0.536834I$ $a = -0.057997 + 0.146408I$ $b = 0.625451 + 0.753642I$	$-2.87163 - 0.43109I$	0
$u = 0.607479 - 0.536834I$ $a = -0.057997 - 0.146408I$ $b = 0.625451 - 0.753642I$	$-2.87163 + 0.43109I$	0
$u = 1.243250 + 0.067945I$ $a = 0.863393 - 0.902732I$ $b = -0.183056 - 0.072866I$	$-3.85916 + 1.48032I$	0
$u = 1.243250 - 0.067945I$ $a = 0.863393 + 0.902732I$ $b = -0.183056 + 0.072866I$	$-3.85916 - 1.48032I$	0
$u = -0.536711 + 0.504007I$ $a = -0.351562 + 1.204950I$ $b = -1.33435 - 1.00611I$	$-7.91386 - 3.73886I$	0
$u = -0.536711 - 0.504007I$ $a = -0.351562 - 1.204950I$ $b = -1.33435 + 1.00611I$	$-7.91386 + 3.73886I$	0
$u = 0.332736 + 0.635981I$ $a = -0.486881 - 0.278645I$ $b = -1.24108 + 0.82202I$	$-8.60735 + 5.94490I$	0
$u = 0.332736 - 0.635981I$ $a = -0.486881 + 0.278645I$ $b = -1.24108 - 0.82202I$	$-8.60735 - 5.94490I$	0
$u = -0.166338 + 0.666357I$ $a = 0.252426 - 0.088045I$ $b = 0.688253 + 0.733228I$	$-1.45177 - 2.24448I$	$-7.42940 + 6.53557I$
$u = -0.166338 - 0.666357I$ $a = 0.252426 + 0.088045I$ $b = 0.688253 - 0.733228I$	$-1.45177 + 2.24448I$	$-7.42940 - 6.53557I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.479515 + 0.488023I$ $a = 0.279138 + 1.179520I$ $b = 0.885725 - 0.779306I$	$-1.44911 + 3.19144I$	$-7.35679 - 8.71973I$
$u = 0.479515 - 0.488023I$ $a = 0.279138 - 1.179520I$ $b = 0.885725 + 0.779306I$	$-1.44911 - 3.19144I$	$-7.35679 + 8.71973I$
$u = -1.335720 + 0.108681I$ $a = -0.37231 + 1.37405I$ $b = -0.138461 - 0.851390I$	$2.87163 - 0.43109I$	0
$u = -1.335720 - 0.108681I$ $a = -0.37231 - 1.37405I$ $b = -0.138461 + 0.851390I$	$2.87163 + 0.43109I$	0
$u = 0.159323 + 0.633172I$ $a = 1.12688 + 1.85019I$ $b = 0.711101 + 0.356367I$	$-7.28113 + 4.19641I$	$-7.17543 - 4.77818I$
$u = 0.159323 - 0.633172I$ $a = 1.12688 - 1.85019I$ $b = 0.711101 - 0.356367I$	$-7.28113 - 4.19641I$	$-7.17543 + 4.77818I$
$u = -0.264474 + 0.551378I$ $a = -0.72511 + 1.64636I$ $b = -0.569908 - 0.161854I$	$-1.10064 - 3.42771I$	$-7.99632 + 9.02699I$
$u = -0.264474 - 0.551378I$ $a = -0.72511 - 1.64636I$ $b = -0.569908 + 0.161854I$	$-1.10064 + 3.42771I$	$-7.99632 - 9.02699I$
$u = -1.388920 + 0.144019I$ $a = -0.23998 - 1.64481I$ $b = 0.1004980 - 0.0409276I$	$-2.44020 - 6.79345I$	0
$u = -1.388920 - 0.144019I$ $a = -0.23998 + 1.64481I$ $b = 0.1004980 + 0.0409276I$	$-2.44020 + 6.79345I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.595566+0.056430I$ $a=-1.275670+0.429355I$ $b=-0.102020-0.301000I$	$1.42393-0.14814I$	$6.94586-0.46279I$
$u=-0.595566-0.056430I$ $a=-1.275670-0.429355I$ $b=-0.102020+0.301000I$	$1.42393+0.14814I$	$6.94586+0.46279I$
$u=-1.40670$ $a=-0.190717$ $b=-1.36954$	-3.91844	0
$u=\ \ 1.403230+0.157306I$ $a=-0.20679+1.82905I$ $b=\ \ 0.91053-1.38663I$	$3.55803+4.98722I$	0
$u=\ \ 1.403230-0.157306I$ $a=-0.20679-1.82905I$ $b=\ \ 0.91053+1.38663I$	$3.55803-4.98722I$	0
$u=-0.530263+0.189652I$ $a=\ \ 0.499941+0.711171I$ $b=\ \ 0.12126-1.59467I$	$-4.46231-5.76178I$	$1.80073+7.63380I$
$u=-0.530263-0.189652I$ $a=\ \ 0.499941-0.711171I$ $b=\ \ 0.12126+1.59467I$	$-4.46231+5.76178I$	$1.80073-7.63380I$
$u=-0.323849+0.452126I$ $a=\ \ 0.87936+1.56567I$ $b=-1.076990+0.414157I$	$-8.42239+0.35931I$	$-8.15948+0.80270I$
$u=-0.323849-0.452126I$ $a=\ \ 0.87936-1.56567I$ $b=-1.076990-0.414157I$	$-8.42239-0.35931I$	$-8.15948-0.80270I$
$u=\ \ 1.44559+0.13953I$ $a=\ \ 0.13946-1.68727I$ $b=-0.161842+0.586300I$	$4.46231+5.76178I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.44559 - 0.13953I$ $a = 0.13946 + 1.68727I$ $b = -0.161842 - 0.586300I$	$4.46231 - 5.76178I$	0
$u = 0.466187 + 0.285491I$ $a = -0.684856 + 0.412840I$ $b = 0.813263 + 0.154187I$	$-1.42393 - 0.14814I$	$-6.94586 - 0.46279I$
$u = 0.466187 - 0.285491I$ $a = -0.684856 - 0.412840I$ $b = 0.813263 - 0.154187I$	$-1.42393 + 0.14814I$	$-6.94586 + 0.46279I$
$u = 1.45431 + 0.02048I$ $a = -0.951292 - 0.896201I$ $b = 1.79673 + 0.70112I$	$4.88209 + 0.50422I$	0
$u = 1.45431 - 0.02048I$ $a = -0.951292 + 0.896201I$ $b = 1.79673 - 0.70112I$	$4.88209 - 0.50422I$	0
$u = -1.44798 + 0.18036I$ $a = 0.72702 + 1.82534I$ $b = -1.57595 - 1.31600I$	$-2.86058 - 8.79148I$	0
$u = -1.44798 - 0.18036I$ $a = 0.72702 - 1.82534I$ $b = -1.57595 + 1.31600I$	$-2.86058 + 8.79148I$	0
$u = -1.48460 + 0.05083I$ $a = 0.63408 - 1.77146I$ $b = -1.10430 + 1.51531I$	$7.28113 - 4.19641I$	0
$u = -1.48460 - 0.05083I$ $a = 0.63408 + 1.77146I$ $b = -1.10430 - 1.51531I$	$7.28113 + 4.19641I$	0
$u = 1.48976 + 0.04878I$ $a = -0.05888 - 2.10123I$ $b = -0.93265 + 1.08671I$	$1.00808 + 6.07571I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.48976 - 0.04878I$ $a = -0.05888 + 2.10123I$ $b = -0.93265 - 1.08671I$	$1.00808 - 6.07571I$	0
$u = -1.49523 + 0.07916I$ $a = -0.79260 + 1.22174I$ $b = 0.91211 - 1.16668I$	$3.85916 - 1.48032I$	0
$u = -1.49523 - 0.07916I$ $a = -0.79260 - 1.22174I$ $b = 0.91211 + 1.16668I$	$3.85916 + 1.48032I$	0
$u = -1.49922 + 0.03734I$ $a = 0.10155 - 1.60495I$ $b = 0.804629 + 0.956431I$	$7.91386 - 3.73886I$	0
$u = -1.49922 - 0.03734I$ $a = 0.10155 + 1.60495I$ $b = 0.804629 - 0.956431I$	$7.91386 + 3.73886I$	0
$u = 1.52152 + 0.00958I$ $a = 0.121602 - 0.998252I$ $b = -0.831129 + 0.730519I$	$8.42239 + 0.35931I$	0
$u = 1.52152 - 0.00958I$ $a = 0.121602 + 0.998252I$ $b = -0.831129 - 0.730519I$	$8.42239 - 0.35931I$	0
$u = 1.52779 + 0.07140I$ $a = -0.37212 - 2.35107I$ $b = 0.43650 + 2.32127I$	$2.44020 + 6.79345I$	0
$u = 1.52779 - 0.07140I$ $a = -0.37212 + 2.35107I$ $b = 0.43650 - 2.32127I$	$2.44020 - 6.79345I$	0
$u = -1.52325 + 0.14078I$ $a = -0.43026 - 2.00109I$ $b = 0.86769 + 1.39894I$	$5.22562 - 5.43260I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.52325 - 0.14078I$ $a = -0.43026 + 2.00109I$ $b = 0.86769 - 1.39894I$	$5.22562 + 5.43260I$	0
$u = -1.51654 + 0.27355I$ $a = 0.02065 - 1.54952I$ $b = 1.13737 + 0.89063I$	$2.86058 - 8.79148I$	0
$u = -1.51654 - 0.27355I$ $a = 0.02065 + 1.54952I$ $b = 1.13737 - 0.89063I$	$2.86058 + 8.79148I$	0
$u = 1.53675 + 0.14550I$ $a = 0.75979 - 2.20368I$ $b = -1.42765 + 1.55977I$	$-1.00808 + 6.07571I$	0
$u = 1.53675 - 0.14550I$ $a = 0.75979 + 2.20368I$ $b = -1.42765 - 1.55977I$	$-1.00808 - 6.07571I$	0
$u = -1.49251 + 0.43030I$ $a = -0.346839 + 0.639465I$ $b = 0.067986 - 0.620504I$	$2.28760 - 2.26927I$	0
$u = -1.49251 - 0.43030I$ $a = -0.346839 - 0.639465I$ $b = 0.067986 + 0.620504I$	$2.28760 + 2.26927I$	0
$u = 0.434805 + 0.097618I$ $a = 1.95914 + 2.03130I$ $b = 0.363256 - 0.760387I$	$1.44911 + 3.19144I$	$7.35679 - 8.71973I$
$u = 0.434805 - 0.097618I$ $a = 1.95914 - 2.03130I$ $b = 0.363256 + 0.760387I$	$1.44911 - 3.19144I$	$7.35679 + 8.71973I$
$u = 1.56268$ $a = 0.587667$ $b = -1.29423$	8.57239	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.56445 + 0.25318I$ $a = 0.064615 - 1.305070I$ $b = -0.920531 + 0.918148I$	$8.60735 + 5.94490I$	0
$u = 1.56445 - 0.25318I$ $a = 0.064615 + 1.305070I$ $b = -0.920531 - 0.918148I$	$8.60735 - 5.94490I$	0
$u = 1.42824 + 0.69356I$ $a = -0.198797 + 0.184560I$ $b = 0.408032 + 0.148288I$	$-2.28760 - 2.26927I$	0
$u = 1.42824 - 0.69356I$ $a = -0.198797 - 0.184560I$ $b = 0.408032 - 0.148288I$	$-2.28760 + 2.26927I$	0
$u = 1.57263 + 0.28115I$ $a = -0.026754 + 1.327210I$ $b = 0.633582 - 1.094220I$	$8.03164 + 7.68352I$	0
$u = 1.57263 - 0.28115I$ $a = -0.026754 - 1.327210I$ $b = 0.633582 + 1.094220I$	$8.03164 - 7.68352I$	0
$u = -1.59918$ $a = -1.33841$ $b = 2.19481$	3.91844	0
$u = -1.58178 + 0.26953I$ $a = 0.23352 + 1.56390I$ $b = -1.05120 - 1.17547I$	$7.3328 - 13.2263I$	0
$u = -1.58178 - 0.26953I$ $a = 0.23352 - 1.56390I$ $b = -1.05120 + 1.17547I$	$7.3328 + 13.2263I$	0
$u = 1.58356 + 0.26771I$ $a = -0.40968 + 1.69637I$ $b = 1.36740 - 1.13901I$	$17.1602I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.58356 - 0.26771I$ $a = -0.40968 - 1.69637I$ $b = 1.36740 + 1.13901I$	$-17.1602I$	0
$u = 0.356649 + 0.156360I$ $a = -1.03119 + 1.31362I$ $b = -0.476026 - 1.106660I$	$1.10064 + 3.42771I$	$7.99632 - 9.02699I$
$u = 0.356649 - 0.156360I$ $a = -1.03119 - 1.31362I$ $b = -0.476026 + 1.106660I$	$1.10064 - 3.42771I$	$7.99632 + 9.02699I$
$u = -0.350648 + 0.105043I$ $a = -2.78594 + 3.95960I$ $b = -0.581556 - 0.978801I$	$-5.22562 - 5.43260I$	$6.43384 + 6.15958I$
$u = -0.350648 - 0.105043I$ $a = -2.78594 - 3.95960I$ $b = -0.581556 + 0.978801I$	$-5.22562 + 5.43260I$	$6.43384 - 6.15958I$
$u = -1.64265$ $a = 0.643909$ $b = -0.0289151$	1.46197	0
$u = -1.64130 + 0.22779I$ $a = -0.221317 - 0.900678I$ $b = 0.741738 + 0.734271I$	$7.39412 - 1.87601I$	0
$u = -1.64130 - 0.22779I$ $a = -0.221317 + 0.900678I$ $b = 0.741738 - 0.734271I$	$7.39412 + 1.87601I$	0
$u = 1.67186$ $a = 0.992925$ $b = -1.01022$	-1.46197	0
$u = -0.147584 + 0.068672I$ $a = 3.79006 + 2.75652I$ $b = 1.118130 - 0.400748I$	$-0.652997 - 0.202759I$	$-7.20656 + 6.25888I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.147584 - 0.068672I$ $a = 3.79006 - 2.75652I$ $b = 1.118130 + 0.400748I$	$-0.652997 + 0.202759I$	$-7.20656 - 6.25888I$
$u = -0.133664$ $a = 10.7869$ $b = -1.10414$	-8.57239	-11.9520

II. $\boldsymbol{I_2^u =}$
$\boldsymbol{\langle u^{15}-9u^{13}+\cdots+b-u,\ 5u^{15}-340u^{14}+\cdots+361a-237,\ u^{16}-u^{15}+\cdots+u+1\rangle}$

(i) Arc colorings

$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1 \\ -u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u \\ -u^3+u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.0138504u^{15}+0.941828u^{14}+\cdots+3.97507u+0.656510 \\ -u^{15}+9u^{13}+\cdots-6u^2+u \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.714681u^{15}+0.598338u^{14}+\cdots-1.88643u+0.675900 \\ -0.437673u^{15}-0.238227u^{14}+\cdots-0.387812u-0.454294 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^2+1 \\ u^4-2u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.792244u^{15}+0.872576u^{14}+\cdots+4.37396u+0.152355 \\ -0.620499u^{15}+0.193906u^{14}+\cdots+0.0831025u-0.188366 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -1.01385u^{15}+0.941828u^{14}+\cdots+4.97507u+0.656510 \\ -u^{15}+9u^{13}+\cdots-6u^2+u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.218837u^{15}+0.119114u^{14}+\cdots-9.80609u-0.772853 \\ 0.451524u^{15}-0.703601u^{14}+\cdots-1.58726u-0.202216 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.152355u^{15}+0.360111u^{14}+\cdots-10.2742u-2.77839 \\ 0.221607u^{15}-0.0692521u^{14}+\cdots-0.601108u-1.50416 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.110803u^{15}-0.534626u^{14}+\cdots+8.19945u+2.74792 \\ -0.639889u^{15}+0.512465u^{14}+\cdots+0.648199u+0.930748 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{113}{19}u^{15} - \frac{103}{19}u^{14} + \cdots - \frac{473}{19}u - \frac{2}{19}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{16} - 8u^{15} + \cdots + 9u - 1$
c_2	$u^{16} + 8u^{15} + \cdots - 9u - 1$
c_3	$u^{16} - 2u^{15} + \cdots - u - 1$
c_4	$u^{16} + 4u^{15} + \cdots + 4u + 1$
c_5, c_6, c_{12}	$u^{16} + u^{15} + \cdots - u + 1$
c_7, c_8, c_{10}	$u^{16} - u^{15} + \cdots + u + 1$
c_9	$u^{16} - 4u^{15} + \cdots - 4u + 1$
c_{11}	$u^{16} + 2u^{15} + \cdots + u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2	$y^{16} + 12y^{15} + \cdots - 23y + 1$
c_3, c_{11}	$y^{16} - 12y^{14} + \cdots + 5y + 1$
c_4, c_9	$y^{16} - 8y^{15} + \cdots - 8y + 1$
c_5, c_6, c_7 c_8, c_{10}, c_{12}	$y^{16} - 19y^{15} + \cdots - y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.926270$ $a=-0.556516$ $b=-0.945338$	0.241885	-10.1920
$u=1.11003$ $a=0.842232$ $b=1.17328$	-6.25072	-6.91940
$u=-0.202630+0.630852I$ $a=-0.696258+0.477965I$ $b=-0.258907-0.581574I$	$-3.18079I$	$0.+8.04553I$
$u=-0.202630-0.630852I$ $a=-0.696258-0.477965I$ $b=-0.258907+0.581574I$	$3.18079I$	$0.-8.04553I$
$u=1.30517+0.59727I$ $a=0.0225910+0.0898992I$ $b=0.303011+0.279380I$	$-2.06431-2.21113I$	$11.41011+0.86465I$
$u=1.30517-0.59727I$ $a=0.0225910-0.0898992I$ $b=0.303011-0.279380I$	$-2.06431+2.21113I$	$11.41011-0.86465I$
$u=-1.43222+0.33519I$ $a=0.448272-0.814439I$ $b=-0.204408+0.676444I$	$2.06431-2.21113I$	$-11.41011+0.86465I$
$u=-1.43222-0.33519I$ $a=0.448272+0.814439I$ $b=-0.204408-0.676444I$	$2.06431+2.21113I$	$-11.41011-0.86465I$
$u=-1.49037+0.10946I$ $a=-0.19936-2.49024I$ $b=0.82300+1.51770I$	$-7.14063I$	$0.+7.57677I$
$u=-1.49037-0.10946I$ $a=-0.19936+2.49024I$ $b=0.82300-1.51770I$	$7.14063I$	$0.-7.57677I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.49011 + 0.13813I$ $a = 0.08568 - 2.00191I$ $b = -0.51703 + 1.36347I$	$5.83452 + 5.49826I$	$7.64316 - 7.42748I$
$u = 1.49011 - 0.13813I$ $a = 0.08568 + 2.00191I$ $b = -0.51703 - 1.36347I$	$5.83452 - 5.49826I$	$7.64316 + 7.42748I$
$u = 1.51494$ $a = 1.46282$ $b = -2.23729$	6.25072	6.91940
$u = 0.174995 + 0.371597I$ $a = 2.98493 + 1.28639I$ $b = 0.554575 - 1.010920I$	$-5.83452 + 5.49826I$	$-7.64316 - 7.42748I$
$u = 0.174995 - 0.371597I$ $a = 2.98493 - 1.28639I$ $b = 0.554575 + 1.010920I$	$-5.83452 - 5.49826I$	$-7.64316 + 7.42748I$
$u = -0.388811$ $a = -1.04023$ $b = -1.39112$	-0.241885	10.1920

III. $I_3^u = \langle b-1,\ a+u+2,\ u^2+u-1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5, c_6 c_{12}	$u^2 - u - 1$
c_2, c_7, c_8 c_{10}	$u^2 + u - 1$
c_3, c_9	$(u+1)^2$
c_4, c_{11}	$(u-1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_6, c_7, c_8 c_{10}, c_{12}	$y^2 - 3y + 1$
c_3, c_4, c_9 c_{11}	$(y-1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.618034$ $a = -2.61803$ $b = 1.00000$	-7.89568	0
$u = -1.61803$ $a = -0.381966$ $b = 1.00000$	7.89568	0

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^2-u-1)(u^{16}-8u^{15}+\cdots+9u-1)(u^{102}+8u^{101}+\cdots+2562u-279)$
c_2	$(u^2+u-1)(u^{16}+8u^{15}+\cdots-9u-1)(u^{102}-8u^{101}+\cdots-2562u-279)$
c_3	$((u+1)^2)(u^{16}-2u^{15}+\cdots-u-1)(u^{102}+3u^{101}+\cdots+27u-1)$
c_4	$((u-1)^2)(u^{16}+4u^{15}+\cdots+4u+1)(u^{102}-u^{101}+\cdots+1378u+1357)$
c_5, c_6	$(u^2-u-1)(u^{16}+u^{15}+\cdots-u+1)(u^{102}-u^{101}+\cdots+18u+1)$
c_7, c_8	$(u^2+u-1)(u^{16}-u^{15}+\cdots+u+1)(u^{102}+u^{101}+\cdots-18u+1)$
c_9	$((u+1)^2)(u^{16}-4u^{15}+\cdots-4u+1)(u^{102}+u^{101}+\cdots-1378u+1357)$
c_{10}	$(u^2+u-1)(u^{16}-u^{15}+\cdots+u+1)(u^{102}-u^{101}+\cdots+18u+1)$
c_{11}	$((u-1)^2)(u^{16}+2u^{15}+\cdots+u-1)(u^{102}-3u^{101}+\cdots-27u-1)$
c_{12}	$(u^2-u-1)(u^{16}+u^{15}+\cdots-u+1)(u^{102}+u^{101}+\cdots-18u+1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_2	$(y^2-3y+1)(y^{16}+12y^{15}+\cdots-23y+1)$ $\cdot(y^{102}+18y^{101}+\cdots+642168y+77841)$
c_3, c_{11}	$((y-1)^2)(y^{16}-12y^{14}+\cdots+5y+1)(y^{102}-5y^{101}+\cdots-1355y+1)$
c_4, c_9	$((y-1)^2)(y^{16}-8y^{15}+\cdots-8y+1)$ $\cdot(y^{102}-33y^{101}+\cdots-92622476y+1841449)$
c_5, c_6, c_7 c_8, c_{10}, c_{12}	$(y^2-3y+1)(y^{16}-19y^{15}+\cdots-y+1)(y^{102}-109y^{101}+\cdots-154y+1)$