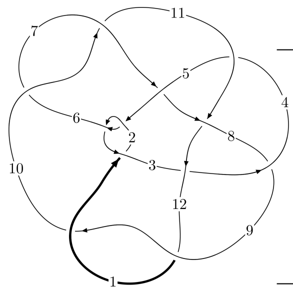
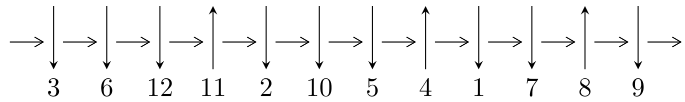
$12a_{0495}$ ($K12a_{0495}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 4.50165 \times 10^{42} u^{42} - 3.19414 \times 10^{44} u^{41} + \cdots + 3.84773 \times 10^{44} b + 2.85090 \times 10^{44},$$
$$- 3.52358 \times 10^{44} u^{42} - 1.24699 \times 10^{44} u^{41} + \cdots + 3.84773 \times 10^{44} a + 3.72957 \times 10^{44},\ u^{43} + u^{42} + \cdots + 2u -$$
$$I_2^u = \langle -6.47610 \times 10^{471} u^{99} + 1.24291 \times 10^{472} u^{98} + \cdots + 1.82398 \times 10^{472} b + 1.18729 \times 10^{475},$$
$$1.09026 \times 10^{476} u^{99} - 2.10040 \times 10^{476} u^{98} + \cdots + 7.28496 \times 10^{475} a - 2.02260 \times 10^{479},$$
$$u^{100} - 3u^{99} + \cdots - 14102u + 1997 \rangle$$
$$I_3^u = \langle b + u,\ -u^3 + a + u,\ u^4 + u^3 - u^2 - u + 1 \rangle$$
$$I_4^u = \langle -9u^{12} + 14u^{11} + 24u^{10} - 61u^9 - 18u^8 + 117u^7 - 19u^6 - 134u^5 + 56u^4 + 88u^3 - 58u^2 + b - 36u + 19,$$
$$12u^{12} - 19u^{11} - 32u^{10} + 83u^9 + 23u^8 - 160u^7 + 29u^6 + 183u^5 - 80u^4 - 120u^3 + 82u^2 + a + 48u - 27,$$
$$u^{13} - 2u^{12} - 2u^{11} + 8u^{10} - u^9 - 14u^8 + 8u^7 + 14u^6 - 13u^5 - 7u^4 + 11u^3 + u^2 - 4u + 1 \rangle$$
$$I_5^u = \langle b + 1,\ a^2 + a - 4u - 6,\ u^2 + u - 1 \rangle$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 164 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.

$\boldsymbol{I_1^u = \langle 4.50\times10^{42}u^{42} - 3.19\times10^{44}u^{41} + \cdots + 3.85\times10^{44}b + 2.85\times10^{44},\ -3.52\times10^{44}u^{42} - 1.25\times10^{44}u^{41} + \cdots + 3.85\times10^{44}a + 3.73\times10^{44},\ u^{43} + u^{42} + \cdots + 2u - 1\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.915756u^{42} + 0.324085u^{41} + \cdots - 8.28487u - 0.969292 \\ -0.0116995u^{42} + 0.830137u^{41} + \cdots + 11.5769u - 0.740930 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 0.904056u^{42} + 1.15422u^{41} + \cdots + 3.29201u - 1.71022 \\ -0.0116995u^{42} + 0.830137u^{41} + \cdots + 11.5769u - 0.740930 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1 \\ -0.858365u^{42} - 0.500568u^{41} + \cdots - 0.685046u + 0.703287 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.0298597u^{42} - 0.939789u^{41} + \cdots + 24.8126u - 2.91645 \\ 0.885896u^{42} - 0.615704u^{41} + \cdots + 16.5277u - 3.88574 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1.25763u^{42} + 0.566937u^{41} + \cdots + 7.76709u + 0.365042 \\ -0.359305u^{42} + 0.0358520u^{41} + \cdots + 1.77109u + 0.0735383 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.535897u^{42} + 0.224628u^{41} + \cdots + 20.0722u - 1.23522 \\ 0.624186u^{42} - 0.362368u^{41} + \cdots + 17.4211u - 3.89651 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ -0.357797u^{42} + 0.447881u^{41} + \cdots - 1.42002u + 0.858365 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u^2 - 1 \\ -0.0526870u^{42} - 0.367362u^{41} + \cdots + 0.888912u + 0.345490 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -2.11254u^{42} + 0.229872u^{41} + \cdots - 39.9613u - 5.19110$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{43} + 18u^{42} + \cdots + 6320u + 256$
c_2, c_5	$u^{43} + 12u^{42} + \cdots + 204u + 16$
c_3, c_7	$u^{43} - 2u^{42} + \cdots - 11u + 1$
c_4, c_8	$u^{43} + 15u^{41} + \cdots + 3u + 1$
c_6, c_9, c_{10} c_{12}	$u^{43} - u^{42} + \cdots + 2u + 1$
c_{11}	$u^{43} - 18u^{42} + \cdots + 8u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{43} + 18y^{42} + \cdots + 23099136y - 65536$
c_2, c_5	$y^{43} - 18y^{42} + \cdots + 6320y - 256$
c_3, c_7	$y^{43} + 2y^{42} + \cdots + 49y - 1$
c_4, c_8	$y^{43} + 30y^{42} + \cdots - 51y - 1$
c_6, c_9, c_{10} c_{12}	$y^{43} - 41y^{42} + \cdots + 60y - 1$
c_{11}	$y^{43} - 6y^{42} + \cdots + 168y - 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.117499 + 1.004120I$ $a = -0.503747 + 1.230070I$ $b = 0.714886 - 0.696202I$	$3.79723 - 2.80030I$	$-1.75451 + 2.24956I$
$u = -0.117499 - 1.004120I$ $a = -0.503747 - 1.230070I$ $b = 0.714886 + 0.696202I$	$3.79723 + 2.80030I$	$-1.75451 - 2.24956I$
$u = 0.062916 + 1.011790I$ $a = -0.15608 - 1.47247I$ $b = 0.928815 + 0.671587I$	$3.17076 - 8.04245I$	$-3.44286 + 8.35826I$
$u = 0.062916 - 1.011790I$ $a = -0.15608 + 1.47247I$ $b = 0.928815 - 0.671587I$	$3.17076 + 8.04245I$	$-3.44286 - 8.35826I$
$u = 1.069580 + 0.138287I$ $a = 0.792890 - 1.128880I$ $b = 1.41664 + 0.59320I$	$-6.25292 - 1.45389I$	$-15.9994 - 2.3137I$
$u = 1.069580 - 0.138287I$ $a = 0.792890 + 1.128880I$ $b = 1.41664 - 0.59320I$	$-6.25292 + 1.45389I$	$-15.9994 + 2.3137I$
$u = 1.109200 + 0.079633I$ $a = -0.211055 - 0.682003I$ $b = 0.58590 + 1.33812I$	$-2.84647 - 6.20636I$	$-11.78082 + 7.78840I$
$u = 1.109200 - 0.079633I$ $a = -0.211055 + 0.682003I$ $b = 0.58590 - 1.33812I$	$-2.84647 + 6.20636I$	$-11.78082 - 7.78840I$
$u = 0.912089 + 0.720865I$ $a = -0.10294 - 1.89195I$ $b = 0.971326 + 0.526994I$	$-1.90367 - 3.73876I$	$-5.13722 + 7.22741I$
$u = 0.912089 - 0.720865I$ $a = -0.10294 + 1.89195I$ $b = 0.971326 - 0.526994I$	$-1.90367 + 3.73876I$	$-5.13722 - 7.22741I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.185440 + 0.005135I$ $a = -0.504645 - 0.907568I$ $b = 0.532020 + 0.841629I$	$-5.72482 - 1.57132I$	$-12.72131 + 2.39726I$
$u = -1.185440 - 0.005135I$ $a = -0.504645 + 0.907568I$ $b = 0.532020 - 0.841629I$	$-5.72482 + 1.57132I$	$-12.72131 - 2.39726I$
$u = -1.218930 + 0.142311I$ $a = 0.234566 + 0.991044I$ $b = 1.22616 - 0.95551I$	$-5.77798 + 4.07207I$	$-16.1651 - 7.5060I$
$u = -1.218930 - 0.142311I$ $a = 0.234566 - 0.991044I$ $b = 1.22616 + 0.95551I$	$-5.77798 - 4.07207I$	$-16.1651 + 7.5060I$
$u = -1.243430 + 0.252908I$ $a = 0.16597 + 1.57644I$ $b = 1.066050 - 0.627388I$	$-7.37478 + 3.89701I$	$-14.05829 + 0.I$
$u = -1.243430 - 0.252908I$ $a = 0.16597 - 1.57644I$ $b = 1.066050 + 0.627388I$	$-7.37478 - 3.89701I$	$-14.05829 + 0.I$
$u = 0.481551 + 0.543549I$ $a = -0.95293 + 1.62097I$ $b = 0.730477 - 0.458470I$	$-1.010270 + 0.399925I$	$-5.75032 + 1.08841I$
$u = 0.481551 - 0.543549I$ $a = -0.95293 - 1.62097I$ $b = 0.730477 + 0.458470I$	$-1.010270 - 0.399925I$	$-5.75032 - 1.08841I$
$u = 0.661900$ $a = -1.30419$ $b = 0.233241$	-1.19793	-7.72930
$u = 0.019937 + 0.656213I$ $a = -0.520963 + 0.051706I$ $b = -0.900796 - 0.188656I$	$-1.62331 - 3.89803I$	$-10.31136 + 7.16780I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.019937 - 0.656213I$ $a = -0.520963 - 0.051706I$ $b = -0.900796 + 0.188656I$	$-1.62331 + 3.89803I$	$-10.31136 - 7.16780I$
$u = 1.362940 + 0.240786I$ $a = -0.500176 - 0.102046I$ $b = -0.919402 + 0.391596I$	$-2.88611 + 1.54391I$	0
$u = 1.362940 - 0.240786I$ $a = -0.500176 + 0.102046I$ $b = -0.919402 - 0.391596I$	$-2.88611 - 1.54391I$	0
$u = -0.259331 + 0.529204I$ $a = -0.758126 - 0.463356I$ $b = 0.039682 + 0.586932I$	$1.26738 - 1.62023I$	$0.40000 + 1.60958I$
$u = -0.259331 - 0.529204I$ $a = -0.758126 + 0.463356I$ $b = 0.039682 - 0.586932I$	$1.26738 + 1.62023I$	$0.40000 - 1.60958I$
$u = 1.40146 + 0.24459I$ $a = -0.412623 - 0.005640I$ $b = -1.42306 + 0.03312I$	$-11.2007 - 10.2230I$	0
$u = 1.40146 - 0.24459I$ $a = -0.412623 + 0.005640I$ $b = -1.42306 - 0.03312I$	$-11.2007 + 10.2230I$	0
$u = -1.35615 + 0.48076I$ $a = -0.501656 - 0.811085I$ $b = 0.448437 + 0.891775I$	$-6.31477 + 5.74152I$	0
$u = -1.35615 - 0.48076I$ $a = -0.501656 + 0.811085I$ $b = 0.448437 - 0.891775I$	$-6.31477 - 5.74152I$	0
$u = 1.37918 + 0.51314I$ $a = -0.415180 + 0.729199I$ $b = 0.410344 - 1.035640I$	$-4.2607 - 13.9202I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.37918 - 0.51314I$ $a = -0.415180 - 0.729199I$ $b = 0.410344 + 1.035640I$	$-4.2607 + 13.9202I$	0
$u = -1.51469 + 0.21936I$ $a = -0.447254 + 0.012516I$ $b = -1.234120 - 0.062522I$	$-12.36260 + 3.19642I$	0
$u = -1.51469 - 0.21936I$ $a = -0.447254 - 0.012516I$ $b = -1.234120 + 0.062522I$	$-12.36260 - 3.19642I$	0
$u = -1.46914 + 0.59124I$ $a = 0.30263 + 1.47349I$ $b = 1.133750 - 0.651193I$	$-8.4013 + 11.4319I$	0
$u = -1.46914 - 0.59124I$ $a = 0.30263 - 1.47349I$ $b = 1.133750 + 0.651193I$	$-8.4013 - 11.4319I$	0
$u = 1.49429 + 0.58038I$ $a = 0.396103 - 1.357230I$ $b = 1.198150 + 0.678964I$	$-6.7222 - 20.0860I$	0
$u = 1.49429 - 0.58038I$ $a = 0.396103 + 1.357230I$ $b = 1.198150 - 0.678964I$	$-6.7222 + 20.0860I$	0
$u = -1.73149 + 0.11092I$ $a = -0.507401 + 0.093242I$ $b = -0.906448 - 0.350335I$	$-9.79548 - 1.45521I$	0
$u = -1.73149 - 0.11092I$ $a = -0.507401 - 0.093242I$ $b = -0.906448 + 0.350335I$	$-9.79548 + 1.45521I$	0
$u = -0.247184 + 0.021411I$ $a = -0.440997 + 0.191569I$ $b = -0.907616 - 0.828669I$	$4.28256 - 3.09500I$	$12.20187 - 2.50782I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.247184 - 0.021411I$ $a = -0.440997 - 0.191569I$ $b = -0.907616 + 0.828669I$	$4.28256 + 3.09500I$	$12.20187 + 2.50782I$
$u = 0.219210 + 0.092274I$ $a = -3.80430 - 1.49216I$ $b = 0.772188 + 0.089355I$	$-1.352550 - 0.324869I$	$-8.63286 + 1.59353I$
$u = 0.219210 - 0.092274I$ $a = -3.80430 + 1.49216I$ $b = 0.772188 - 0.089355I$	$-1.352550 + 0.324869I$	$-8.63286 - 1.59353I$

II. $\boldsymbol{I_2^u = \langle -6.48 \times 10^{471} u^{99} + 1.24 \times 10^{472} u^{98} + \cdots + 1.82 \times 10^{472} b + 1.19 \times 10^{475},\ 1.09 \times 10^{476} u^{99} - 2.10 \times 10^{476} u^{98} + \cdots + 7.28 \times 10^{475} a - 2.02 \times 10^{479},\ u^{100} - 3u^{99} + \cdots - 14102u + 1997 \rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -1.49660u^{99} + 2.88319u^{98} + \cdots - 17051.6u + 2776.40 \\ 0.355054u^{99} - 0.681427u^{98} + \cdots + 4015.19u - 650.934 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -1.14154u^{99} + 2.20177u^{98} + \cdots - 13036.4u + 2125.46 \\ 0.355054u^{99} - 0.681427u^{98} + \cdots + 4015.19u - 650.934 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1.72142u^{99} + 3.30112u^{98} + \cdots - 19491.2u + 3175.97 \\ -0.513029u^{99} + 0.985355u^{98} + \cdots - 5825.26u + 951.619 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.00681558u^{99} + 0.000928500u^{98} + \cdots - 46.7083u + 11.5955 \\ 0.622392u^{99} - 1.20360u^{98} + \cdots + 7159.72u - 1172.37 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -1.19879u^{99} + 2.31683u^{98} + \cdots - 13648.7u + 2220.10 \\ 1.51223u^{99} - 2.88894u^{98} + \cdots + 16991.6u - 2762.04 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.666675u^{99} + 1.30122u^{98} + \cdots - 7754.81u + 1270.54 \\ 0.525452u^{99} - 1.01692u^{98} + \cdots + 6056.80u - 993.112 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.793074u^{99} + 1.54287u^{98} + \cdots - 9165.38u + 1507.47 \\ 1.29836u^{99} - 2.48147u^{98} + \cdots + 14600.4u - 2373.20 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -15.2590u^{99} + 29.3676u^{98} + \cdots - 173710.u + 28330.9 \\ -2.90740u^{99} + 5.60560u^{98} + \cdots - 33193.5u + 5412.75 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -20.4788u^{99} + 39.2181u^{98} + \cdots - 231611.u + 37764.1$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{50}+24u^{49}+\cdots+50u+1)^2$
c_2, c_5	$(u^{50}-4u^{49}+\cdots+6u+1)^2$
c_3, c_7	$u^{100}-8u^{99}+\cdots+35u-1$
c_4, c_8	$u^{100}-2u^{99}+\cdots+1541u-1189$
c_6, c_9, c_{10} c_{12}	$u^{100}+3u^{99}+\cdots+14102u+1997$
c_{11}	$(u^{50}+12u^{49}+\cdots+16u-4)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{50} + 4y^{48} + \cdots - 10y + 1)^2$
c_2, c_5	$(y^{50} - 24y^{49} + \cdots - 50y + 1)^2$
c_3, c_7	$y^{100} - 10y^{99} + \cdots - 161y + 1$
c_4, c_8	$y^{100} + 2y^{99} + \cdots + 65873919y + 1413721$
c_6, c_9, c_{10} c_{12}	$y^{100} - 63y^{99} + \cdots - 99531630y + 3988009$
c_{11}	$(y^{50} - 6y^{49} + \cdots - 360y + 16)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.656763 + 0.760795I$ $a = -0.584932 + 1.144110I$ $b = -0.436168 - 0.694869I$	$0.427144 + 1.052320I$	0
$u = 0.656763 - 0.760795I$ $a = -0.584932 - 1.144110I$ $b = -0.436168 + 0.694869I$	$0.427144 - 1.052320I$	0
$u = 0.905026 + 0.412300I$ $a = 0.550286 - 0.702215I$ $b = -0.216437 + 1.063560I$	$-0.47368 - 5.62173I$	0
$u = 0.905026 - 0.412300I$ $a = 0.550286 + 0.702215I$ $b = -0.216437 - 1.063560I$	$-0.47368 + 5.62173I$	0
$u = 0.949536 + 0.348439I$ $a = -1.218050 - 0.554976I$ $b = 0.745385 - 0.169931I$	$-2.44170 - 0.46878I$	0
$u = 0.949536 - 0.348439I$ $a = -1.218050 + 0.554976I$ $b = 0.745385 + 0.169931I$	$-2.44170 + 0.46878I$	0
$u = 1.011970 + 0.097016I$ $a = 1.53769 + 1.22745I$ $b = -0.736456 - 0.667448I$	$-3.13684 - 2.46798I$	0
$u = 1.011970 - 0.097016I$ $a = 1.53769 - 1.22745I$ $b = -0.736456 + 0.667448I$	$-3.13684 + 2.46798I$	0
$u = 0.085664 + 0.965920I$ $a = 0.582554 + 1.103620I$ $b = -1.071100 - 0.607580I$	$1.01570 - 6.59278I$	0
$u = 0.085664 - 0.965920I$ $a = 0.582554 - 1.103620I$ $b = -1.071100 + 0.607580I$	$1.01570 + 6.59278I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.860385 + 0.444729I$ $a = 0.412609 + 0.215003I$ $b = -0.477882 - 0.757790I$	$2.77810 + 1.41692I$	0
$u = -0.860385 - 0.444729I$ $a = 0.412609 - 0.215003I$ $b = -0.477882 + 0.757790I$	$2.77810 - 1.41692I$	0
$u = 0.917557 + 0.116065I$ $a = -0.23436 + 2.21973I$ $b = -0.864244 + 0.414490I$	$-3.16942 + 1.80253I$	0
$u = 0.917557 - 0.116065I$ $a = -0.23436 - 2.21973I$ $b = -0.864244 - 0.414490I$	$-3.16942 - 1.80253I$	0
$u = 1.077360 + 0.004053I$ $a = -2.55658 + 2.06259I$ $b = -0.956692 - 0.490395I$	$-3.53615 - 1.92255I$	0
$u = 1.077360 - 0.004053I$ $a = -2.55658 - 2.06259I$ $b = -0.956692 + 0.490395I$	$-3.53615 + 1.92255I$	0
$u = 1.054110 + 0.264782I$ $a = -0.436059 - 0.507688I$ $b = 0.174912 - 0.072012I$	$-2.25288 - 0.54027I$	0
$u = 1.054110 - 0.264782I$ $a = -0.436059 + 0.507688I$ $b = 0.174912 + 0.072012I$	$-2.25288 + 0.54027I$	0
$u = -1.079740 + 0.178850I$ $a = -1.97577 + 0.70292I$ $b = -0.953268 - 0.231057I$	$-4.08289 + 7.09407I$	0
$u = -1.079740 - 0.178850I$ $a = -1.97577 - 0.70292I$ $b = -0.953268 + 0.231057I$	$-4.08289 - 7.09407I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.114640 + 0.127526I$ $a = 0.882490 - 0.625320I$ $b = 1.178820 + 0.412170I$	$-4.49981 + 0.63122I$	0
$u = -1.114640 - 0.127526I$ $a = 0.882490 + 0.625320I$ $b = 1.178820 - 0.412170I$	$-4.49981 - 0.63122I$	0
$u = 1.12635$ $a = 0.310968$ $b = 1.67865$	-7.24677	0
$u = 1.123620 + 0.082110I$ $a = 1.35965 - 1.86945I$ $b = 1.023230 + 0.261071I$	$-3.65706 - 0.80100I$	0
$u = 1.123620 - 0.082110I$ $a = 1.35965 + 1.86945I$ $b = 1.023230 - 0.261071I$	$-3.65706 + 0.80100I$	0
$u = -0.057481 + 1.129840I$ $a = 0.027247 - 1.409620I$ $b = 0.513461 + 0.735910I$	$0.25096 + 8.19403I$	0
$u = -0.057481 - 1.129840I$ $a = 0.027247 + 1.409620I$ $b = 0.513461 - 0.735910I$	$0.25096 - 8.19403I$	0
$u = 0.495922 + 1.020730I$ $a = 0.594511 - 0.531595I$ $b = -1.078350 + 0.573559I$	$-1.46179 + 5.95154I$	0
$u = 0.495922 - 1.020730I$ $a = 0.594511 + 0.531595I$ $b = -1.078350 - 0.573559I$	$-1.46179 - 5.95154I$	0
$u = -1.083500 + 0.384657I$ $a = 0.178705 + 0.589391I$ $b = 0.215012 - 0.897652I$	$-1.01117 + 5.33279I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.083500 - 0.384657I$ $a = 0.178705 - 0.589391I$ $b = 0.215012 + 0.897652I$	$-1.01117 - 5.33279I$	0
$u = -0.552128 + 0.595910I$ $a = 0.72315 + 2.39951I$ $b = 0.745385 - 0.169931I$	$-2.44170 - 0.46878I$	0
$u = -0.552128 - 0.595910I$ $a = 0.72315 - 2.39951I$ $b = 0.745385 + 0.169931I$	$-2.44170 + 0.46878I$	0
$u = -1.125100 + 0.381707I$ $a = -0.83288 - 1.21807I$ $b = -1.071100 + 0.607580I$	$1.01570 + 6.59278I$	0
$u = -1.125100 - 0.381707I$ $a = -0.83288 + 1.21807I$ $b = -1.071100 - 0.607580I$	$1.01570 - 6.59278I$	0
$u = -1.198300 + 0.018491I$ $a = 0.731188 + 0.480247I$ $b = -0.325073 - 0.850938I$	$-5.49087 + 5.13720I$	0
$u = -1.198300 - 0.018491I$ $a = 0.731188 - 0.480247I$ $b = -0.325073 + 0.850938I$	$-5.49087 - 5.13720I$	0
$u = -1.201710 + 0.200589I$ $a = -0.68018 - 1.78861I$ $b = -1.156630 + 0.597698I$	$-7.96986 + 10.48970I$	0
$u = -1.201710 - 0.200589I$ $a = -0.68018 + 1.78861I$ $b = -1.156630 - 0.597698I$	$-7.96986 - 10.48970I$	0
$u = -0.140619 + 0.763835I$ $a = -0.120660 - 1.384640I$ $b = -0.477882 + 0.757790I$	$2.77810 - 1.41692I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.140619-0.763835I$ $a=-0.120660+1.384640I$ $b=-0.477882-0.757790I$	$2.77810+1.41692I$	0
$u=\ \ 1.193770+0.368333I$ $a=\ \ 0.0844010-0.0070627I$ $b=-0.436168+0.694869I$	$0.427144-1.052320I$	0
$u=\ \ 1.193770-0.368333I$ $a=\ \ 0.0844010+0.0070627I$ $b=-0.436168-0.694869I$	$0.427144+1.052320I$	0
$u=-1.25402$ $a=\ \ 0.429329$ $b=\ \ 1.67865$	-7.24677	0
$u=-1.195240+0.384154I$ $a=\ \ 0.360765+0.545779I$ $b=-0.216437-1.063560I$	$-0.47368+5.62173I$	0
$u=-1.195240-0.384154I$ $a=\ \ 0.360765-0.545779I$ $b=-0.216437+1.063560I$	$-0.47368-5.62173I$	0
$u=\ \ 1.123350+0.563061I$ $a=-0.42110+1.45762I$ $b=-1.243440-0.639820I$	$-3.56043-11.64580I$	0
$u=\ \ 1.123350-0.563061I$ $a=-0.42110-1.45762I$ $b=-1.243440+0.639820I$	$-3.56043+11.64580I$	0
$u=-0.395318+0.623073I$ $a=-0.076015-1.329850I$ $b=-0.822433+0.736761I$	$4.01340+2.76482I$	0
$u=-0.395318-0.623073I$ $a=-0.076015+1.329850I$ $b=-0.822433-0.736761I$	$4.01340-2.76482I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.235850 + 0.277767I$ $a = 1.68829 - 1.29789I$ $b = 0.990030 + 0.443721I$	$-3.70285 - 3.69603I$	0
$u = 1.235850 - 0.277767I$ $a = 1.68829 + 1.29789I$ $b = 0.990030 - 0.443721I$	$-3.70285 + 3.69603I$	0
$u = -0.871034 + 0.966316I$ $a = 0.799966 + 0.408001I$ $b = -0.953268 - 0.231057I$	$-4.08289 + 7.09407I$	0
$u = -0.871034 - 0.966316I$ $a = 0.799966 - 0.408001I$ $b = -0.953268 + 0.231057I$	$-4.08289 - 7.09407I$	0
$u = -0.682087$ $a = 2.52826$ $b = 1.08337$	-2.51173	21.1920
$u = 0.097129 + 0.671876I$ $a = -0.76182 + 1.61317I$ $b = 0.174912 - 0.072012I$	$-2.25288 - 0.54027I$	$-6.00000 + 0.I$
$u = 0.097129 - 0.671876I$ $a = -0.76182 - 1.61317I$ $b = 0.174912 + 0.072012I$	$-2.25288 + 0.54027I$	$-6.00000 + 0.I$
$u = -0.030312 + 0.651328I$ $a = 0.635383 + 0.988793I$ $b = -0.822433 - 0.736761I$	$4.01340 - 2.76482I$	$0. + 4.05311I$
$u = -0.030312 - 0.651328I$ $a = 0.635383 - 0.988793I$ $b = -0.822433 + 0.736761I$	$4.01340 + 2.76482I$	$0. - 4.05311I$
$u = -1.256800 + 0.521701I$ $a = -0.509913 - 0.290009I$ $b = 0.513461 + 0.735910I$	$0.25096 + 8.19403I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.256800 - 0.521701I$ $a = -0.509913 + 0.290009I$ $b = 0.513461 - 0.735910I$	$0.25096 - 8.19403I$	0
$u = -1.308060 + 0.531897I$ $a = -0.810107 - 1.099470I$ $b = -1.098390 + 0.355955I$	$-5.05834 + 8.72078I$	0
$u = -1.308060 - 0.531897I$ $a = -0.810107 + 1.099470I$ $b = -1.098390 - 0.355955I$	$-5.05834 - 8.72078I$	0
$u = -0.230728 + 1.395230I$ $a = -0.446370 + 1.126250I$ $b = 1.061970 - 0.603466I$	$-1.39932 + 13.31280I$	0
$u = -0.230728 - 1.395230I$ $a = -0.446370 - 1.126250I$ $b = 1.061970 + 0.603466I$	$-1.39932 - 13.31280I$	0
$u = -0.101257 + 0.562966I$ $a = -3.23307 - 1.40067I$ $b = 1.023230 + 0.261071I$	$-3.65706 - 0.80100I$	$-10.8022 - 21.8156I$
$u = -0.101257 - 0.562966I$ $a = -3.23307 + 1.40067I$ $b = 1.023230 - 0.261071I$	$-3.65706 + 0.80100I$	$-10.8022 + 21.8156I$
$u = 1.40566 + 0.27667I$ $a = -0.970218 + 0.838707I$ $b = -1.078350 - 0.573559I$	$-1.46179 - 5.95154I$	0
$u = 1.40566 - 0.27667I$ $a = -0.970218 - 0.838707I$ $b = -1.078350 + 0.573559I$	$-1.46179 + 5.95154I$	0
$u = -1.36852 + 0.44819I$ $a = -0.592478 - 1.272930I$ $b = -1.243440 + 0.639820I$	$-3.56043 + 11.64580I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.36852 - 0.44819I$ $a = -0.592478 + 1.272930I$ $b = -1.243440 - 0.639820I$	$-3.56043 - 11.64580I$	0
$u = 0.381225 + 0.391402I$ $a = -0.958951 - 0.206925I$ $b = 1.178820 - 0.412170I$	$-4.49981 - 0.63122I$	$-11.53735 + 5.50836I$
$u = 0.381225 - 0.391402I$ $a = -0.958951 + 0.206925I$ $b = 1.178820 + 0.412170I$	$-4.49981 + 0.63122I$	$-11.53735 - 5.50836I$
$u = -1.38113 + 0.46979I$ $a = 0.88861 + 1.34956I$ $b = 1.061970 - 0.603466I$	$-1.39932 + 13.31280I$	0
$u = -1.38113 - 0.46979I$ $a = 0.88861 - 1.34956I$ $b = 1.061970 + 0.603466I$	$-1.39932 - 13.31280I$	0
$u = -1.46026 + 0.01361I$ $a = 0.646851 + 0.170646I$ $b = 1.244560 + 0.218633I$	$-10.62880 + 1.86401I$	0
$u = -1.46026 - 0.01361I$ $a = 0.646851 - 0.170646I$ $b = 1.244560 - 0.218633I$	$-10.62880 - 1.86401I$	0
$u = 1.33803 + 0.59383I$ $a = 0.375070 - 0.852034I$ $b = -0.325073 + 0.850938I$	$-5.49087 - 5.13720I$	0
$u = 1.33803 - 0.59383I$ $a = 0.375070 + 0.852034I$ $b = -0.325073 - 0.850938I$	$-5.49087 + 5.13720I$	0
$u = 1.47666 + 0.33344I$ $a = 0.291071 + 0.286286I$ $b = 1.244560 - 0.218633I$	$-10.62880 - 1.86401I$	0

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.47666 - 0.33344I$ $a = 0.291071 - 0.286286I$ $b = 1.244560 + 0.218633I$	$-10.62880 + 1.86401I$	0
$u = 0.439430$ $a = -2.69934$ $b = 1.08337$	-2.51173	21.1920
$u = 0.407312 + 0.109649I$ $a = 1.022410 - 0.594071I$ $b = 0.215012 - 0.897652I$	$-1.01117 + 5.33279I$	$-5.08032 - 5.87415I$
$u = 0.407312 - 0.109649I$ $a = 1.022410 + 0.594071I$ $b = 0.215012 + 0.897652I$	$-1.01117 - 5.33279I$	$-5.08032 + 5.87415I$
$u = -0.328633 + 0.155733I$ $a = 3.36879 - 1.60752I$ $b = -1.098390 - 0.355955I$	$-5.05834 - 8.72078I$	$-12.2296 + 7.5537I$
$u = -0.328633 - 0.155733I$ $a = 3.36879 + 1.60752I$ $b = -1.098390 + 0.355955I$	$-5.05834 + 8.72078I$	$-12.2296 - 7.5537I$
$u = 1.49024 + 0.71508I$ $a = -0.264914 + 1.352310I$ $b = -1.156630 - 0.597698I$	$-7.96986 - 10.48970I$	0
$u = 1.49024 - 0.71508I$ $a = -0.264914 - 1.352310I$ $b = -1.156630 + 0.597698I$	$-7.96986 + 10.48970I$	0
$u = -0.63337 + 1.57254I$ $a = -0.545268 - 0.855325I$ $b = 0.990030 + 0.443721I$	$-3.70285 - 3.69603I$	0
$u = -0.63337 - 1.57254I$ $a = -0.545268 + 0.855325I$ $b = 0.990030 - 0.443721I$	$-3.70285 + 3.69603I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.157018 + 0.237936I$ $a = -4.63390 - 1.62830I$ $b = 0.908192 + 0.620745I$	$-1.86952 - 2.47384I$	$-10.76147 + 0.10199I$
$u = 0.157018 - 0.237936I$ $a = -4.63390 + 1.62830I$ $b = 0.908192 - 0.620745I$	$-1.86952 + 2.47384I$	$-10.76147 - 0.10199I$
$u = 1.72720 + 0.06420I$ $a = 0.181902 - 0.980964I$ $b = 0.908192 + 0.620745I$	$-1.86952 - 2.47384I$	0
$u = 1.72720 - 0.06420I$ $a = 0.181902 + 0.980964I$ $b = 0.908192 - 0.620745I$	$-1.86952 + 2.47384I$	0
$u = -1.98508 + 0.90307I$ $a = 0.081396 + 1.085250I$ $b = -0.736456 - 0.667448I$	$-3.13684 - 2.46798I$	0
$u = -1.98508 - 0.90307I$ $a = 0.081396 - 1.085250I$ $b = -0.736456 + 0.667448I$	$-3.13684 + 2.46798I$	0
$u = 2.48164 + 0.79519I$ $a = -0.250516 + 0.905817I$ $b = -0.864244 - 0.414490I$	$-3.16942 - 1.80253I$	0
$u = 2.48164 - 0.79519I$ $a = -0.250516 - 0.905817I$ $b = -0.864244 + 0.414490I$	$-3.16942 + 1.80253I$	0
$u = -0.14812 + 2.77942I$ $a = 0.223866 - 0.965495I$ $b = -0.956692 + 0.490395I$	$-3.53615 + 1.92255I$	0
$u = -0.14812 - 2.77942I$ $a = 0.223866 + 0.965495I$ $b = -0.956692 - 0.490395I$	$-3.53615 - 1.92255I$	0

III. $I_3^u = \langle b + u,\ -u^3 + a + u,\ u^4 + u^3 - u^2 - u + 1\rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^3 - u \\ -u \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} u^3 - 2u \\ -u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -1 \\ u^3 - u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^3 - u^2 + u \\ -u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u \\ u^3 + u^2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0 \\ -u^3 - u^2 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u \\ u^3 + 1 \end{pmatrix}$$

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 9u^2 + 3u - 18$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.692440 + 0.318148I$ $a = -0.570696 + 0.107280I$ $b = -0.692440 - 0.318148I$	$-2.72253 - 1.41376I$	$-12.51838 + 4.91982I$
$u = 0.692440 - 0.318148I$ $a = -0.570696 - 0.107280I$ $b = -0.692440 + 0.318148I$	$-2.72253 + 1.41376I$	$-12.51838 - 4.91982I$
$u = -1.192440 + 0.547877I$ $a = 0.57070 + 1.62477I$ $b = 1.192440 - 0.547877I$	$-5.50214 + 11.56320I$	$-11.4816 - 10.1160I$
$u = -1.192440 - 0.547877I$ $a = 0.57070 - 1.62477I$ $b = 1.192440 + 0.547877I$	$-5.50214 - 11.56320I$	$-11.4816 + 10.1160I$

IV. $I_4^u =$
$\langle -9u^{12}+14u^{11}+\cdots+b+19,\ 12u^{12}-19u^{11}+\cdots+a-27,\ u^{13}-2u^{12}+\cdots-4u+1\rangle$

(i) Arc colorings

$$a_6 = \begin{pmatrix}1\\0\end{pmatrix}$$
$$a_{10} = \begin{pmatrix}0\\u\end{pmatrix}$$
$$a_7 = \begin{pmatrix}1\\u^2\end{pmatrix}$$
$$a_3 = \begin{pmatrix}-12u^{12}+19u^{11}+\cdots-48u+27\\9u^{12}-14u^{11}+\cdots+36u-19\end{pmatrix}$$
$$a_{11} = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$
$$a_2 = \begin{pmatrix}-3u^{12}+5u^{11}+\cdots-12u+8\\9u^{12}-14u^{11}+\cdots+36u-19\end{pmatrix}$$
$$a_1 = \begin{pmatrix}-1\\-6u^{12}+9u^{11}+\cdots-26u+17\end{pmatrix}$$
$$a_5 = \begin{pmatrix}-4u^{12}+6u^{11}+\cdots-17u+9\\-16u^{12}+25u^{11}+\cdots-65u+36\end{pmatrix}$$
$$a_8 = \begin{pmatrix}u\\3u^{12}-5u^{11}+\cdots+13u-10\end{pmatrix}$$
$$a_4 = \begin{pmatrix}0\\-19u^{12}+29u^{11}+\cdots-78u+43\end{pmatrix}$$
$$a_9 = \begin{pmatrix}u\\3u^{12}-6u^{11}+\cdots+8u-6\end{pmatrix}$$
$$a_{12} = \begin{pmatrix}u^2-1\\-6u^{12}+10u^{11}+\cdots-20u+14\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 75u^{12}-115u^{11}-210u^{10}+519u^9+167u^8-1018u^7+159u^6+1178u^5-496u^4-786u^3+531u^2+311u-201$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{13} - 4u^{12} + \cdots + 5u - 1$
c_2	$u^{13} + 2u^{12} + \cdots - 5u - 1$
c_3, c_7	$u^{13} + 3u^{12} + \cdots + u - 1$
c_4, c_8	$u^{13} + 2u^{12} + \cdots - u - 1$
c_5	$u^{13} - 2u^{12} + \cdots - 5u + 1$
c_6, c_9	$u^{13} - 2u^{12} + \cdots - 4u + 1$
c_{10}, c_{12}	$u^{13} + 2u^{12} + \cdots - 4u - 1$
c_{11}	$u^{13} + 11u^{12} + \cdots + 128u + 31$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{13} - 4y^{12} + \cdots - 23y - 1$
c_2, c_5	$y^{13} - 4y^{12} + \cdots + 5y - 1$
c_3, c_7	$y^{13} - y^{12} + \cdots + 3y - 1$
c_4, c_8	$y^{13} + 2y^{11} + \cdots - 15y - 1$
c_6, c_9, c_{10} c_{12}	$y^{13} - 8y^{12} + \cdots + 14y - 1$
c_{11}	$y^{13} - 5y^{12} + \cdots + 6526y - 961$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.992701+0.282907I$ $a=-0.435396-0.399377I$ $b=-0.247297+1.144110I$	$-1.69708+6.76410I$	$-7.71683-11.09769I$
$u=-0.992701-0.282907I$ $a=-0.435396+0.399377I$ $b=-0.247297-1.144110I$	$-1.69708-6.76410I$	$-7.71683+11.09769I$
$u=-0.880123+0.552537I$ $a=-1.41196-0.68879I$ $b=\ \ 0.427909+0.279082I$	$-2.50801+7.45416I$	$-6.40133-6.58220I$
$u=-0.880123-0.552537I$ $a=-1.41196+0.68879I$ $b=\ \ 0.427909-0.279082I$	$-2.50801-7.45416I$	$-6.40133+6.58220I$
$u=\ \ 0.757953+0.778137I$ $a=-0.67885+1.48144I$ $b=\ \ 0.744363-0.557876I$	$-1.73418+1.07707I$	$-12.96804-4.43209I$
$u=\ \ 0.757953-0.778137I$ $a=-0.67885-1.48144I$ $b=\ \ 0.744363+0.557876I$	$-1.73418-1.07707I$	$-12.96804+4.43209I$
$u=-1.20134$ $a=-0.364424$ $b=-1.74406$	-7.84075	-24.5780
$u=\ \ 1.269840+0.347361I$ $a=-0.500072-0.106925I$ $b=-0.912284+0.408885I$	$-3.32707+1.59519I$	$-18.2681-5.8552I$
$u=\ \ 1.269840-0.347361I$ $a=-0.500072+0.106925I$ $b=-0.912284-0.408885I$	$-3.32707-1.59519I$	$-18.2681+5.8552I$
$u=\ \ 0.995567+0.866297I$ $a=-0.16673-1.81712I$ $b=\ \ 0.949926+0.545728I$	$-2.41125-3.35136I$	$-15.3892-0.1863I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.995567 - 0.866297I$ $a = -0.16673 + 1.81712I$ $b = 0.949926 - 0.545728I$	$-2.41125 + 3.35136I$	$-15.3892 + 0.1863I$
$u = 0.450131 + 0.022096I$ $a = -0.124781 - 1.167010I$ $b = 0.909414 + 0.847203I$	$4.08343 - 3.14937I$	$-25.4676 + 7.5455I$
$u = 0.450131 - 0.022096I$ $a = -0.124781 + 1.167010I$ $b = 0.909414 - 0.847203I$	$4.08343 + 3.14937I$	$-25.4676 - 7.5455I$

V. $I_5^u = \langle b+1,\ a^2+a-4u-6,\ u^2+u-1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -16u - 41$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5	$(y-1)^4$
c_3, c_4, c_7 c_8	$y^4 - y^3 - 8y^2 - 9y + 1$
c_6, c_9, c_{10} c_{12}	$(y^2 - 3y + 1)^2$
c_{11}	y^4

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.618034$ $a = 2.45333$ $b = -1.00000$	-2.63189	-50.8890
$u = 0.618034$ $a = -3.45333$ $b = -1.00000$	-2.63189	-50.8890
$u = -1.61803$ $a = -0.500000 + 0.471313I$ $b = -1.00000$	-10.5276	-15.1110
$u = -1.61803$ $a = -0.500000 - 0.471313I$ $b = -1.00000$	-10.5276	-15.1110

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^4)(u^4-3u^3+\cdots-3u+1)(u^{13}-4u^{12}+\cdots+5u-1)$ $\cdot(u^{43}+18u^{42}+\cdots+6320u+256)(u^{50}+24u^{49}+\cdots+50u+1)^2$
c_2	$((u-1)^4)(u^4+u^3-u^2-u+1)(u^{13}+2u^{12}+\cdots-5u-1)$ $\cdot(u^{43}+12u^{42}+\cdots+204u+16)(u^{50}-4u^{49}+\cdots+6u+1)^2$
c_3, c_7	$(u^4-u^3-u^2+u+1)(u^4+u^3+3u-1)(u^{13}+3u^{12}+\cdots+u-1)$ $\cdot(u^{43}-2u^{42}+\cdots-11u+1)(u^{100}-8u^{99}+\cdots+35u-1)$
c_4, c_8	$(u^4-2u^3+2u^2-u+1)(u^4+u^3+3u-1)(u^{13}+2u^{12}+\cdots-u-1)$ $\cdot(u^{43}+15u^{41}+\cdots+3u+1)(u^{100}-2u^{99}+\cdots+1541u-1189)$
c_5	$((u+1)^4)(u^4-u^3-u^2+u+1)(u^{13}-2u^{12}+\cdots-5u+1)$ $\cdot(u^{43}+12u^{42}+\cdots+204u+16)(u^{50}-4u^{49}+\cdots+6u+1)^2$
c_6, c_9	$((u^2+u-1)^2)(u^4+u^3-u^2-u+1)(u^{13}-2u^{12}+\cdots-4u+1)$ $\cdot(u^{43}-u^{42}+\cdots+2u+1)(u^{100}+3u^{99}+\cdots+14102u+1997)$
c_{10}, c_{12}	$((u^2-u-1)^2)(u^4-u^3-u^2+u+1)(u^{13}+2u^{12}+\cdots-4u-1)$ $\cdot(u^{43}-u^{42}+\cdots+2u+1)(u^{100}+3u^{99}+\cdots+14102u+1997)$
c_{11}	$u^4(u^2+u+1)^2(u^{13}+11u^{12}+\cdots+128u+31)$ $\cdot(u^{43}-18u^{42}+\cdots+8u+4)(u^{50}+12u^{49}+\cdots+16u-4)^2$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^4)(y^4+y^3+9y^2+y+1)(y^{13}-4y^{12}+\cdots-23y-1)$ $\cdot(y^{43}+18y^{42}+\cdots+23099136y-65536)$ $\cdot(y^{50}+4y^{48}+\cdots-10y+1)^2$
c_2, c_5	$((y-1)^4)(y^4-3y^3+\cdots-3y+1)(y^{13}-4y^{12}+\cdots+5y-1)$ $\cdot(y^{43}-18y^{42}+\cdots+6320y-256)(y^{50}-24y^{49}+\cdots-50y+1)^2$
c_3, c_7	$(y^4-3y^3+5y^2-3y+1)(y^4-y^3-8y^2-9y+1)$ $\cdot(y^{13}-y^{12}+\cdots+3y-1)(y^{43}+2y^{42}+\cdots+49y-1)$ $\cdot(y^{100}-10y^{99}+\cdots-161y+1)$
c_4, c_8	$(y^4+2y^2+3y+1)(y^4-y^3-8y^2-9y+1)(y^{13}+2y^{11}+\cdots-15y-1)$ $\cdot(y^{43}+30y^{42}+\cdots-51y-1)$ $\cdot(y^{100}+2y^{99}+\cdots+65873919y+1413721)$
c_6, c_9, c_{10} c_{12}	$((y^2-3y+1)^2)(y^4-3y^3+\cdots-3y+1)(y^{13}-8y^{12}+\cdots+14y-1)$ $\cdot(y^{43}-41y^{42}+\cdots+60y-1)$ $\cdot(y^{100}-63y^{99}+\cdots-99531630y+3988009)$
c_{11}	$y^4(y^2+y+1)^2(y^{13}-5y^{12}+\cdots+6526y-961)$ $\cdot(y^{43}-6y^{42}+\cdots+168y-16)(y^{50}-6y^{49}+\cdots-360y+16)^2$