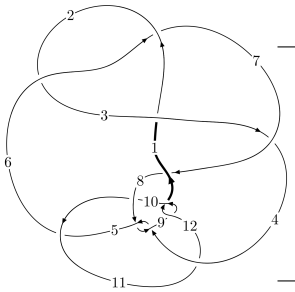
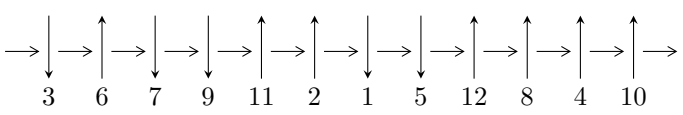
$12a_{0228}$ $(K12a_{0228})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 5.75581 \times 10^{60} u^{115} + 1.98417 \times 10^{61} u^{114} + \cdots + 6.45264 \times 10^{60} b - 1.60343 \times 10^{61},$$
$$5.07246 \times 10^{60} u^{115} + 7.72531 \times 10^{60} u^{114} + \cdots + 2.15088 \times 10^{60} a - 6.26357 \times 10^{60},\ u^{116} + 2u^{115} + \cdots - 5u$$
$$I_2^u = \langle 6u^4 - 24u^3 + 33u^2 + 17b - 20u - 2,\ u^4 - 4u^3 + 14u^2 + 17a - 9u + 11,\ u^5 - u^4 + 2u^3 - u^2 + u - 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 121 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. $\boldsymbol{I_1^u = \langle 5.76 \times 10^{60} u^{115} + 1.98 \times 10^{61} u^{114} + \cdots + 6.45 \times 10^{60} b - 1.60 \times 10^{61},\ 5.07 \times 10^{60} u^{115} + 7.73 \times 10^{60} u^{114} + \cdots + 2.15 \times 10^{60} a - 6.26 \times 10^{60},\ u^{116} + 2u^{115} + \cdots - 5u - 1 \rangle}$

(i) Arc colorings

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

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

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^6 + 2u^4 + u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^7 - 2u^5 - 2u^3 \\ -u^7 - u^5 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -2.35832u^{115} - 3.59170u^{114} + \cdots + 5.62431u + 2.91210 \\ -0.892009u^{115} - 3.07497u^{114} + \cdots + 6.78907u + 2.48492 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.666357u^{115} - 0.411615u^{114} + \cdots - 1.02339u + 1.71894 \\ 0.244543u^{115} - 0.720314u^{114} + \cdots + 1.56448u + 1.23807 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -2.30584u^{115} - 3.63509u^{114} + \cdots + 5.89997u + 2.09097 \\ -0.964992u^{115} - 1.49301u^{114} + \cdots + 3.05675u + 0.534737 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -2.56113u^{115} - 3.41397u^{114} + \cdots + 3.10597u + 3.15038 \\ -0.809371u^{115} - 2.81370u^{114} + \cdots + 6.08982u + 2.24085 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.00487807u^{115} - 1.44058u^{114} + \cdots + 9.57972u + 1.72391 \\ -0.539615u^{115} - 1.54506u^{114} + \cdots + 5.14801u + 1.34085 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 4.97176u^{115} + 8.14134u^{114} + \cdots - 7.30434u + 7.67511$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{116} + 54u^{115} + \cdots - 11u + 1$
c_2, c_6	$u^{116} - 2u^{115} + \cdots + 5u - 1$
c_3	$u^{116} + 2u^{115} + \cdots + 35u - 425$
c_4, c_8	$u^{116} + 2u^{115} + \cdots + u - 1$
c_5	$u^{116} + u^{115} + \cdots - 76160u + 9248$
c_7	$u^{116} - 10u^{115} + \cdots + 3962235u - 436275$
c_9, c_{12}	$u^{116} + 6u^{115} + \cdots + 3349u - 289$
c_{10}	$17(17u^{116} - 49u^{115} + \cdots + 4.80276 \times 10^8 u + 5.07692 \times 10^7)$
c_{11}	$17(17u^{116} + 127u^{115} + \cdots - 6.60670 \times 10^8 u + 1.85956 \times 10^8)$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{116}+18y^{115}+\cdots-203y+1$
c_2, c_6	$y^{116}+54y^{115}+\cdots-11y+1$
c_3	$y^{116}-18y^{115}+\cdots-14809075y+180625$
c_4, c_8	$y^{116}+78y^{115}+\cdots-11y+1$
c_5	$y^{116}-33y^{115}+\cdots-5184058880y+85525504$
c_7	$y^{116}+54y^{115}+\cdots+2904898639725y+190335875625$
c_9, c_{12}	$y^{116}-94y^{115}+\cdots-10562661y+83521$
c_{10}	$289(289y^{116}-735y^{115}+\cdots-8.40142\times10^{16}y+2.57752\times10^{15})$
c_{11}	$289(289y^{116}-35645y^{115}+\cdots-9.53692\times10^{17}y+3.45798\times10^{16})$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.213726+0.979678I$ $a=\ 1.60090+0.53449I$ $b=\ 1.83411-0.89425I$	$0.167995+0.526081I$	0
$u=-0.213726-0.979678I$ $a=\ 1.60090-0.53449I$ $b=\ 1.83411+0.89425I$	$0.167995-0.526081I$	0
$u=\ 0.125887+0.978569I$ $a=\ 1.70020-0.61531I$ $b=\ 1.366030+0.140718I$	$4.35805-1.96715I$	0
$u=\ 0.125887-0.978569I$ $a=\ 1.70020+0.61531I$ $b=\ 1.366030-0.140718I$	$4.35805+1.96715I$	0
$u=\ 0.309540+0.933467I$ $a=\ 0.112007-0.737693I$ $b=\ 1.93325-1.81475I$	$0.77750+1.28815I$	0
$u=\ 0.309540-0.933467I$ $a=\ 0.112007+0.737693I$ $b=\ 1.93325+1.81475I$	$0.77750-1.28815I$	0
$u=\ 0.743846+0.630403I$ $a=\ 1.90685+1.03273I$ $b=-0.22355+1.92834I$	$10.83050-1.67305I$	0
$u=\ 0.743846-0.630403I$ $a=\ 1.90685-1.03273I$ $b=-0.22355-1.92834I$	$10.83050+1.67305I$	0
$u=-0.751758+0.607698I$ $a=\ 1.95762-1.27271I$ $b=-0.39410-1.79230I$	$6.55718-4.78302I$	0
$u=-0.751758-0.607698I$ $a=\ 1.95762+1.27271I$ $b=-0.39410+1.79230I$	$6.55718+4.78302I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.738019 + 0.605133I$ $a = 2.08860 + 1.33989I$ $b = -0.58143 + 1.83889I$	$11.3529 + 10.6244I$	0
$u = 0.738019 - 0.605133I$ $a = 2.08860 - 1.33989I$ $b = -0.58143 - 1.83889I$	$11.3529 - 10.6244I$	0
$u = -0.236713 + 1.018870I$ $a = 0.376854 - 0.678326I$ $b = -0.900450 - 1.066460I$	$-0.027406 - 1.051670I$	0
$u = -0.236713 - 1.018870I$ $a = 0.376854 + 0.678326I$ $b = -0.900450 + 1.066460I$	$-0.027406 + 1.051670I$	0
$u = 0.319760 + 1.015070I$ $a = -2.16164 + 3.60624I$ $b = -7.18790 - 1.77810I$	$1.33619 + 0.84695I$	0
$u = 0.319760 - 1.015070I$ $a = -2.16164 - 3.60624I$ $b = -7.18790 + 1.77810I$	$1.33619 - 0.84695I$	0
$u = 0.447876 + 0.971546I$ $a = -0.044939 + 1.030310I$ $b = -0.0173674 - 0.0369021I$	$2.76198 + 4.91396I$	0
$u = 0.447876 - 0.971546I$ $a = -0.044939 - 1.030310I$ $b = -0.0173674 + 0.0369021I$	$2.76198 - 4.91396I$	0
$u = -0.387226 + 0.997733I$ $a = -0.479626 - 0.904983I$ $b = -0.853551 + 0.688235I$	$-0.83470 - 2.75967I$	0
$u = -0.387226 - 0.997733I$ $a = -0.479626 + 0.904983I$ $b = -0.853551 - 0.688235I$	$-0.83470 + 2.75967I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.180477+1.077350I$ $a=\ \ 0.552778+1.052860I$ $b=\ \ 0.411909-0.007067I$	$-0.03499+4.92088I$	0
$u=-0.180477-1.077350I$ $a=\ \ 0.552778-1.052860I$ $b=\ \ 0.411909+0.007067I$	$-0.03499-4.92088I$	0
$u=-0.826428+0.374638I$ $a=\ \ 1.16217-2.07695I$ $b=-0.69074-1.49489I$	$9.38100+1.35019I$	0
$u=-0.826428-0.374638I$ $a=\ \ 1.16217+2.07695I$ $b=-0.69074+1.49489I$	$9.38100-1.35019I$	0
$u=-0.371827+0.824359I$ $a=\ \ 0.707381-0.378871I$ $b=\ \ 1.156950+0.662434I$	$4.93896-1.72487I$	0
$u=-0.371827-0.824359I$ $a=\ \ 0.707381+0.378871I$ $b=\ \ 1.156950-0.662434I$	$4.93896+1.72487I$	0
$u=\ \ 0.813710+0.390654I$ $a=\ \ 1.65938+2.30133I$ $b=-0.47737+1.91274I$	$5.35441-7.81379I$	0
$u=\ \ 0.813710-0.390654I$ $a=\ \ 1.65938-2.30133I$ $b=-0.47737-1.91274I$	$5.35441+7.81379I$	0
$u=\ \ 0.214588+1.080830I$ $a=\ \ 0.237087-0.533447I$ $b=\ \ 0.002009+0.228143I$	$-3.44211-1.31744I$	0
$u=\ \ 0.214588-1.080830I$ $a=\ \ 0.237087+0.533447I$ $b=\ \ 0.002009-0.228143I$	$-3.44211+1.31744I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.806147+0.384835I$ $a=\ \ 1.75293-2.64831I$ $b=-0.59316-2.20336I$	$10.1438+13.5286I$	0
$u=-0.806147-0.384835I$ $a=\ \ 1.75293+2.64831I$ $b=-0.59316+2.20336I$	$10.1438-13.5286I$	0
$u=\ \ 0.684803+0.538931I$ $a=\ \ 0.356592-0.731019I$ $b=\ \ 1.144010+0.473688I$	$5.38099+4.74367I$	0
$u=\ \ 0.684803-0.538931I$ $a=\ \ 0.356592+0.731019I$ $b=\ \ 1.144010-0.473688I$	$5.38099-4.74367I$	0
$u=-0.716074+0.485984I$ $a=-1.56043+1.94624I$ $b=\ \ 1.28088+1.50181I$	$9.28238-1.11602I$	$13.84835+0.I$
$u=-0.716074-0.485984I$ $a=-1.56043-1.94624I$ $b=\ \ 1.28088-1.50181I$	$9.28238+1.11602I$	$13.84835+0.I$
$u=\ \ 0.735710+0.444784I$ $a=-2.10447-2.13484I$ $b=\ \ 0.58715-2.40571I$	$9.06427-3.60222I$	$13.25447+0.I$
$u=\ \ 0.735710-0.444784I$ $a=-2.10447+2.13484I$ $b=\ \ 0.58715+2.40571I$	$9.06427+3.60222I$	$13.25447+0.I$
$u=-0.751426+0.398872I$ $a=-1.331980+0.280135I$ $b=-0.65647+1.33074I$	$4.65190+7.12858I$	$8.00466-6.45034I$
$u=-0.751426-0.398872I$ $a=-1.331980-0.280135I$ $b=-0.65647-1.33074I$	$4.65190-7.12858I$	$8.00466+6.45034I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.158418+1.151430I$ $a=-1.74281-0.26217I$ $b=-1.73088+0.55675I$	$5.05609+10.97800I$	0
$u=-0.158418-1.151430I$ $a=-1.74281+0.26217I$ $b=-1.73088-0.55675I$	$5.05609-10.97800I$	0
$u=-0.407944+1.088610I$ $a=-0.970445-0.729417I$ $b=-0.746780+0.242375I$	$-2.10001-6.03359I$	0
$u=-0.407944-1.088610I$ $a=-0.970445+0.729417I$ $b=-0.746780-0.242375I$	$-2.10001+6.03359I$	0
$u=0.647035+0.966883I$ $a=0.60997+1.62296I$ $b=-1.15036+2.56312I$	$9.82905+6.94446I$	0
$u=0.647035-0.966883I$ $a=0.60997-1.62296I$ $b=-1.15036-2.56312I$	$9.82905-6.94446I$	0
$u=-0.644975+0.529795I$ $a=0.317585-0.144452I$ $b=0.444610-0.522513I$	$1.80492-1.53618I$	$3.15801+3.61737I$
$u=-0.644975-0.529795I$ $a=0.317585+0.144452I$ $b=0.444610+0.522513I$	$1.80492+1.53618I$	$3.15801-3.61737I$
$u=0.689493+0.467421I$ $a=-2.87010-1.03664I$ $b=0.09768-1.55760I$	$4.67202+0.02612I$	$5.05104+0.I$
$u=0.689493-0.467421I$ $a=-2.87010+1.03664I$ $b=0.09768+1.55760I$	$4.67202-0.02612I$	$5.05104+0.I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.710222+0.434714I$ $a=-1.75555+2.99422I$ $b=\ \ 0.84628+2.17663I$	$4.49672+2.23779I$	$5.47097-1.27314I$
$u=-0.710222-0.434714I$ $a=-1.75555-2.99422I$ $b=\ \ 0.84628-2.17663I$	$4.49672-2.23779I$	$5.47097+1.27314I$
$u=\ \ 0.374555+1.106800I$ $a=-0.745632+0.391856I$ $b=-0.565566-0.009069I$	$-4.95014+1.97544I$	0
$u=\ \ 0.374555-1.106800I$ $a=-0.745632-0.391856I$ $b=-0.565566+0.009069I$	$-4.95014-1.97544I$	0
$u=\ \ 0.145684+1.159730I$ $a=-1.47907+0.20648I$ $b=-1.61847-0.35202I$	$0.17052-5.27151I$	0
$u=\ \ 0.145684-1.159730I$ $a=-1.47907-0.20648I$ $b=-1.61847+0.35202I$	$0.17052+5.27151I$	0
$u=-0.552992+1.030300I$ $a=\ \ 0.343583-0.419278I$ $b=-0.529664-0.227199I$	$0.31815-3.15390I$	0
$u=-0.552992-1.030300I$ $a=\ \ 0.343583+0.419278I$ $b=-0.529664+0.227199I$	$0.31815+3.15390I$	0
$u=-0.449021+1.080700I$ $a=\ \ 0.697371-0.733803I$ $b=-0.81172-1.64241I$	$-1.83928-1.16536I$	0
$u=-0.449021-1.080700I$ $a=\ \ 0.697371+0.733803I$ $b=-0.81172+1.64241I$	$-1.83928+1.16536I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.734193 + 0.382672I$ $a = -0.363486 - 0.221446I$ $b = -0.252124 - 0.679881I$	$1.04420 - 3.63453I$	$2.00000 + 3.37564I$
$u = \ 0.734193 - 0.382672I$ $a = -0.363486 + 0.221446I$ $b = -0.252124 + 0.679881I$	$1.04420 + 3.63453I$	$2.00000 - 3.37564I$
$u = \ 0.636595 + 0.984802I$ $a = \ 0.71956 + 1.68566I$ $b = -0.73241 + 2.95425I$	$10.22580 - 5.40240I$	0
$u = \ 0.636595 - 0.984802I$ $a = \ 0.71956 - 1.68566I$ $b = -0.73241 - 2.95425I$	$10.22580 + 5.40240I$	0
$u = \ 0.826337$ $a = \ 0.752087$ $b = -0.356164$	-0.424621	19.7700
$u = \ 0.578311 + 1.021470I$ $a = -0.325740 + 0.405044I$ $b = -1.47077 - 0.57548I$	$3.95182 + 0.14125I$	0
$u = \ 0.578311 - 1.021470I$ $a = -0.325740 - 0.405044I$ $b = -1.47077 + 0.57548I$	$3.95182 - 0.14125I$	0
$u = -0.648829 + 0.986349I$ $a = \ 0.69438 - 1.65109I$ $b = -0.81010 - 2.70604I$	$5.43273 - 0.51549I$	0
$u = -0.648829 - 0.986349I$ $a = \ 0.69438 + 1.65109I$ $b = -0.81010 + 2.70604I$	$5.43273 + 0.51549I$	0
$u = -0.341593 + 0.739889I$ $a = \ 0.491846 - 0.519334I$ $b = -0.650693 - 0.657690I$	$-0.07351 - 1.53899I$	$-0.35735 + 4.62669I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.341593-0.739889I$ $a=\ 0.491846+0.519334I$ $b=-0.650693+0.657690I$	$-0.07351+1.53899I$	$-0.35735-4.62669I$
$u=-0.702246+0.400107I$ $a=\ 1.66196+0.97308I$ $b=\ 1.088350+0.037803I$	$4.18759+0.99207I$	$8.76986+0.I$
$u=-0.702246-0.400107I$ $a=\ 1.66196-0.97308I$ $b=\ 1.088350-0.037803I$	$4.18759-0.99207I$	$8.76986+0.I$
$u=\ 0.551493+1.056650I$ $a=\ 2.34626+0.85733I$ $b=\ 1.41245+2.07391I$	$2.91340+5.62132I$	0
$u=\ 0.551493-1.056650I$ $a=\ 2.34626-0.85733I$ $b=\ 1.41245-2.07391I$	$2.91340-5.62132I$	0
$u=-0.170661+1.184020I$ $a=-1.317040+0.124672I$ $b=-1.237580+0.310417I$	$4.20227-1.40731I$	0
$u=-0.170661-1.184020I$ $a=-1.317040-0.124672I$ $b=-1.237580-0.310417I$	$4.20227+1.40731I$	0
$u=\ 0.637926+0.481213I$ $a=\ 0.31869+2.12232I$ $b=-0.247274+0.566263I$	$4.62411-0.94935I$	$11.70670+0.13383I$
$u=\ 0.637926-0.481213I$ $a=\ 0.31869-2.12232I$ $b=-0.247274-0.566263I$	$4.62411+0.94935I$	$11.70670-0.13383I$
$u=\ 0.573566+1.061840I$ $a=-0.29785-2.25510I$ $b=\ 1.55526-3.19666I$	$2.91832+4.85580I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.573566 - 1.061840I$ $a = -0.29785 + 2.25510I$ $b = 1.55526 + 3.19666I$	$2.91832 - 4.85580I$	0
$u = -0.589394 + 1.056650I$ $a = -1.20022 + 1.15722I$ $b = -0.28853 + 3.39941I$	$7.59396 - 3.88847I$	0
$u = -0.589394 - 1.056650I$ $a = -1.20022 - 1.15722I$ $b = -0.28853 - 3.39941I$	$7.59396 + 3.88847I$	0
$u = 0.476904 + 1.120410I$ $a = 0.501150 + 0.454538I$ $b = -0.31692 + 1.52578I$	$-4.25414 + 5.60705I$	0
$u = 0.476904 - 1.120410I$ $a = 0.501150 - 0.454538I$ $b = -0.31692 - 1.52578I$	$-4.25414 - 5.60705I$	0
$u = -0.577539 + 1.078690I$ $a = -2.11320 + 1.66372I$ $b = -0.17083 + 4.02607I$	$2.60273 - 7.18374I$	0
$u = -0.577539 - 1.078690I$ $a = -2.11320 - 1.66372I$ $b = -0.17083 - 4.02607I$	$2.60273 + 7.18374I$	0
$u = -0.566964 + 1.089470I$ $a = -1.05362 - 1.05257I$ $b = -1.68561 + 0.12365I$	$2.17207 - 5.87574I$	0
$u = -0.566964 - 1.089470I$ $a = -1.05362 + 1.05257I$ $b = -1.68561 - 0.12365I$	$2.17207 + 5.87574I$	0
$u = 0.589893 + 1.079910I$ $a = -1.51806 - 1.70782I$ $b = 0.76044 - 3.88756I$	$7.18842 + 8.65606I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.589893 - 1.079910I$ $a = -1.51806 + 1.70782I$ $b = 0.76044 + 3.88756I$	$7.18842 - 8.65606I$	0
$u = -0.402416 + 1.170640I$ $a = -0.558708 + 0.087620I$ $b = -0.013361 - 0.491838I$	$1.32732 + 2.51230I$	0
$u = -0.402416 - 1.170640I$ $a = -0.558708 - 0.087620I$ $b = -0.013361 + 0.491838I$	$1.32732 - 2.51230I$	0
$u = -0.443018 + 1.159920I$ $a = 0.275598 + 0.078688I$ $b = 0.17555 - 1.44020I$	$1.60686 - 10.79070I$	0
$u = -0.443018 - 1.159920I$ $a = 0.275598 - 0.078688I$ $b = 0.17555 + 1.44020I$	$1.60686 + 10.79070I$	0
$u = 0.574854 + 1.102970I$ $a = -0.311171 - 0.375018I$ $b = 0.672540 - 0.546778I$	$-1.06723 + 8.62177I$	0
$u = 0.574854 - 1.102970I$ $a = -0.311171 + 0.375018I$ $b = 0.672540 + 0.546778I$	$-1.06723 - 8.62177I$	0
$u = -0.584507 + 1.101830I$ $a = -0.289837 + 1.073540I$ $b = 1.64161 + 1.26609I$	$2.58041 - 12.19620I$	0
$u = -0.584507 - 1.101830I$ $a = -0.289837 - 1.073540I$ $b = 1.64161 - 1.26609I$	$2.58041 + 12.19620I$	0
$u = -0.746532 + 0.035193I$ $a = 0.300992 - 0.466186I$ $b = -0.724441 - 0.419011I$	$4.88516 + 6.54091I$	$7.04632 - 5.66501I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.746532-0.035193I$ $a=\ \ 0.300992+0.466186I$ $b=-0.724441+0.419011I$	$4.88516-6.54091I$	$7.04632+5.66501I$
$u=-0.599085+1.123350I$ $a=\ \ 1.78094-1.65645I$ $b=-0.02174-3.95945I$	$7.9462-18.7856I$	0
$u=-0.599085-1.123350I$ $a=\ \ 1.78094+1.65645I$ $b=-0.02174+3.95945I$	$7.9462+18.7856I$	0
$u=\ \ 0.603607+1.123490I$ $a=\ \ 1.49343+1.57396I$ $b=-0.10145+3.52882I$	$3.16983+13.10760I$	0
$u=\ \ 0.603607-1.123490I$ $a=\ \ 1.49343-1.57396I$ $b=-0.10145-3.52882I$	$3.16983-13.10760I$	0
$u=-0.604196+1.133820I$ $a=\ \ 1.29900-1.15047I$ $b=\ \ 0.30017-3.00439I$	$7.11642-6.67701I$	0
$u=-0.604196-1.133820I$ $a=\ \ 1.29900+1.15047I$ $b=\ \ 0.30017+3.00439I$	$7.11642+6.67701I$	0
$u=\ \ 0.447930+1.216100I$ $a=-0.196025+0.331108I$ $b=-0.322401+1.165090I$	$-4.07214+4.51567I$	0
$u=\ \ 0.447930-1.216100I$ $a=-0.196025-0.331108I$ $b=-0.322401-1.165090I$	$-4.07214-4.51567I$	0
$u=\ \ 0.631815+0.152180I$ $a=\ \ 0.838584+0.735490I$ $b=-0.128293+0.612715I$	$-1.56177-1.36213I$	$-2.43526+3.51072I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.631815 - 0.152180I$ $a = 0.838584 - 0.735490I$ $b = -0.128293 - 0.612715I$	$-1.56177 + 1.36213I$	$-2.43526 - 3.51072I$
$u = -0.540848 + 0.029673I$ $a = 1.30352 - 0.93076I$ $b = 0.298046 - 0.822427I$	$0.80862 - 2.54444I$	$2.28912 + 3.32919I$
$u = -0.540848 - 0.029673I$ $a = 1.30352 + 0.93076I$ $b = 0.298046 + 0.822427I$	$0.80862 + 2.54444I$	$2.28912 - 3.32919I$
$u = 0.370358 + 0.278693I$ $a = 2.36180 + 0.08518I$ $b = 1.151130 - 0.099955I$	$4.31697 - 1.33395I$	$7.26914 - 0.12263I$
$u = 0.370358 - 0.278693I$ $a = 2.36180 - 0.08518I$ $b = 1.151130 + 0.099955I$	$4.31697 + 1.33395I$	$7.26914 + 0.12263I$
$u = -0.255830$ $a = 1.95257$ $b = 0.902295$	1.20356	8.93350

II. $I_2^u = \langle 6u^4 - 24u^3 + 33u^2 + 17b - 20u - 2,\ u^4 - 4u^3 + 14u^2 + 17a - 9u + 11,\ u^5 - u^4 + 2u^3 - u^2 + u - 1\rangle$

(i) Arc colorings

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

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

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u^4 + u^2 + 1 \\ u^4 - u^3 + u^2 + 1 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^2 + 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u^2 - 1 \\ u^4 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0588235u^4 + 0.235294u^3 + \cdots + 0.529412u - 0.647059 \\ -0.352941u^4 + 1.41176u^3 + \cdots + 1.17647u + 0.117647 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0 \\ -0.529412u^4 + 1.11765u^3 + \cdots + 0.764706u + 0.176471 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} -0.0588235u^4 + 0.235294u^3 + \cdots + 0.529412u + 0.352941 \\ -0.352941u^4 + 1.41176u^3 + \cdots + 1.17647u + 0.117647 \end{pmatrix}$$

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -\frac{3058}{289}u^4 + \frac{4089}{289}u^3 - \frac{4307}{289}u^2 + \frac{2549}{289}u - \frac{1576}{289}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^5 - 3u^4 + 4u^3 - u^2 - u + 1$
c_2	$u^5 - u^4 + 2u^3 - u^2 + u - 1$
c_3, c_4	$u^5 + u^4 - 2u^3 - u^2 + u - 1$
c_5	u^5
c_6	$u^5 + u^4 + 2u^3 + u^2 + u + 1$
c_7	$u^5 + 5u^4 + 8u^3 + 3u^2 - u + 1$
c_8	$u^5 - u^4 - 2u^3 + u^2 + u + 1$
c_9	$(u+1)^5$
c_{10}	$17(17u^5 - 54u^4 + 67u^3 - 38u^2 + 10u - 1)$
c_{11}	$17(17u^5 + 12u^4 - 4u^3 - 7u^2 + 1)$
c_{12}	$(u-1)^5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1$
c_2, c_6	$y^5 + 3y^4 + 4y^3 + y^2 - y - 1$
c_3, c_4, c_8	$y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1$
c_5	y^5
c_7	$y^5 - 9y^4 + 32y^3 - 35y^2 - 5y - 1$
c_9, c_{12}	$(y-1)^5$
c_{10}	$289(289y^5 - 638y^4 + 725y^3 - 212y^2 + 24y - 1)$
c_{11}	$289(289y^5 - 280y^4 + 184y^3 - 73y^2 + 14y - 1)$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.339110+0.822375I$ $a=-0.211858+0.793759I$ $b=\ \ 1.72316+1.44455I$	$1.31583-1.53058I$	$9.06178+5.08523I$
$u=-0.339110-0.822375I$ $a=-0.211858-0.793759I$ $b=\ \ 1.72316-1.44455I$	$1.31583+1.53058I$	$9.06178-5.08523I$
$u=\ \ 0.766826$ $a=-0.639588$ $b=\ \ 0.392884$	-0.756147	-4.73200
$u=\ \ 0.455697+1.200150I$ $a=\ \ 0.149299-0.337603I$ $b=\ \ 0.286285-1.144490I$	$-4.22763+4.40083I$	$-13.0037+8.9390I$
$u=\ \ 0.455697-1.200150I$ $a=\ \ 0.149299+0.337603I$ $b=\ \ 0.286285+1.144490I$	$-4.22763-4.40083I$	$-13.0037-8.9390I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^5-3u^4+4u^3-u^2-u+1)(u^{116}+54u^{115}+\cdots-11u+1)$
c_2	$(u^5-u^4+2u^3-u^2+u-1)(u^{116}-2u^{115}+\cdots+5u-1)$
c_3	$(u^5+u^4-2u^3-u^2+u-1)(u^{116}+2u^{115}+\cdots+35u-425)$
c_4	$(u^5+u^4-2u^3-u^2+u-1)(u^{116}+2u^{115}+\cdots+u-1)$
c_5	$u^5(u^{116}+u^{115}+\cdots-76160u+9248)$
c_6	$(u^5+u^4+2u^3+u^2+u+1)(u^{116}-2u^{115}+\cdots+5u-1)$
c_7	$(u^5+5u^4+8u^3+3u^2-u+1)$ $\cdot(u^{116}-10u^{115}+\cdots+3962235u-436275)$
c_8	$(u^5-u^4-2u^3+u^2+u+1)(u^{116}+2u^{115}+\cdots+u-1)$
c_9	$((u+1)^5)(u^{116}+6u^{115}+\cdots+3349u-289)$
c_{10}	$289(17u^5-54u^4+67u^3-38u^2+10u-1)$ $\cdot(17u^{116}-49u^{115}+\cdots+480276280u+50769239)$
c_{11}	$289(17u^5+12u^4-4u^3-7u^2+1)$ $\cdot(17u^{116}+127u^{115}+\cdots-660669734u+185956423)$
c_{12}	$((u-1)^5)(u^{116}+6u^{115}+\cdots+3349u-289)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)(y^{116} + 18y^{115} + \cdots - 203y + 1)$
c_2, c_6	$(y^5 + 3y^4 + 4y^3 + y^2 - y - 1)(y^{116} + 54y^{115} + \cdots - 11y + 1)$
c_3	$(y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1)$ $\cdot (y^{116} - 18y^{115} + \cdots - 14809075y + 180625)$
c_4, c_8	$(y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1)(y^{116} + 78y^{115} + \cdots - 11y + 1)$
c_5	$y^5(y^{116} - 33y^{115} + \cdots - 5.18406 \times 10^9 y + 8.55255 \times 10^7)$
c_7	$(y^5 - 9y^4 + 32y^3 - 35y^2 - 5y - 1)$ $\cdot (y^{116} + 54y^{115} + \cdots + 2904898639725y + 190335875625)$
c_9, c_{12}	$((y-1)^5)(y^{116} - 94y^{115} + \cdots - 1.05627 \times 10^7 y + 83521)$
c_{10}	$83521(289y^5 - 638y^4 + 725y^3 - 212y^2 + 24y - 1)$ $\cdot (289y^{116} - 735y^{115} + \cdots - 8.40 \times 10^{16} y + 2.58 \times 10^{15})$
c_{11}	$83521(289y^5 - 280y^4 + 184y^3 - 73y^2 + 14y - 1)$ $\cdot (289y^{116} - 3.56 \times 10^4 y^{115} + \cdots - 9.54 \times 10^{17} y + 3.46 \times 10^{16})$