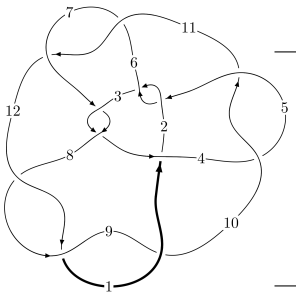
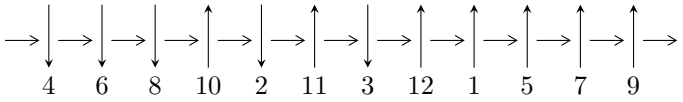
$12a_{0898}$ $(K12a_{0898})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -4.96183 \times 10^{229} u^{98} - 1.54116 \times 10^{230} u^{97} + \cdots + 5.52314 \times 10^{228} b + 3.65483 \times 10^{230},$$
$$2.26754 \times 10^{231} u^{98} + 7.18353 \times 10^{231} u^{97} + \cdots + 5.52314 \times 10^{228} a - 1.28816 \times 10^{232},\ u^{99} + 3u^{98} + \cdots - 20u$$
$$I_2^u = \langle 187u^{15} - 333u^{14} + \cdots + 71b - 316,\ 68u^{15} - 205u^{14} + \cdots + 71a - 457,\ u^{16} - 2u^{15} + \cdots - 6u - 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 115 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. $\boldsymbol{I_1^u = \langle -4.96 \times 10^{229} u^{98} - 1.54 \times 10^{230} u^{97} + \cdots + 5.52 \times 10^{228} b + 3.65 \times 10^{230},\ 2.27 \times 10^{231} u^{98} + 7.18 \times 10^{231} u^{97} + \cdots + 5.52 \times 10^{228} a - 1.29 \times 10^{232},\ u^{99} + 3u^{98} + \cdots - 20u + 1 \rangle}$

(i) Arc colorings

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

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

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

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

$$a_4 = \begin{pmatrix} -410.552u^{98} - 1300.62u^{97} + \cdots - 33247.6u + 2332.30 \\ 8.98371u^{98} + 27.9038u^{97} + \cdots + 851.061u - 66.1730 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -426.755u^{98} - 1351.65u^{97} + \cdots - 34375.4u + 2404.93 \\ 10.5930u^{98} + 32.6000u^{97} + \cdots + 948.262u - 72.6394 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -401.569u^{98} - 1272.72u^{97} + \cdots - 32396.5u + 2266.13 \\ 8.98371u^{98} + 27.9038u^{97} + \cdots + 851.061u - 66.1730 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -190.944u^{98} - 604.011u^{97} + \cdots - 15994.4u + 1130.44 \\ 38.9398u^{98} + 120.404u^{97} + \cdots + 3169.91u - 230.155 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -525.908u^{98} - 1667.80u^{97} + \cdots - 44094.0u + 3123.09 \\ 22.7841u^{98} + 74.5759u^{97} + \cdots + 2125.65u - 154.013 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 847.939u^{98} + 2682.65u^{97} + \cdots + 70075.5u - 4962.87 \\ 43.6317u^{98} + 137.298u^{97} + \cdots + 3675.73u - 263.137 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -839.291u^{98} - 2655.52u^{97} + \cdots - 69413.1u + 4916.87 \\ -43.1587u^{98} - 135.565u^{97} + \cdots - 3615.21u + 258.560 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -84.5894u^{98} - 274.529u^{97} + \cdots - 7761.27u + 561.078$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{99} - u^{98} + \cdots - 420367u - 86857$
c_2, c_5	$u^{99} - 30u^{97} + \cdots + 7u - 1$
c_3, c_7	$u^{99} - 2u^{98} + \cdots - 303u + 61$
c_4, c_{10}	$u^{99} - u^{98} + \cdots - 39u + 937$
c_6, c_{11}	$u^{99} + u^{98} + \cdots - 5u + 1$
c_8, c_9, c_{12}	$u^{99} - 3u^{98} + \cdots - 20u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{99} + 29y^{98} + \cdots + 12950485171y - 7544138449$
c_2, c_5	$y^{99} - 60y^{98} + \cdots + 125y - 1$
c_3, c_7	$y^{99} - 60y^{98} + \cdots + 178673y - 3721$
c_4, c_{10}	$y^{99} - 83y^{98} + \cdots + 55082129y - 877969$
c_6, c_{11}	$y^{99} - 67y^{98} + \cdots + 147y - 1$
c_8, c_9, c_{12}	$y^{99} - 107y^{98} + \cdots + 92y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.740716+0.660134I$ $a=-0.418260-0.619628I$ $b=\ \ 1.051910-0.341857I$	$-2.64189+2.94712I$	0
$u=-0.740716-0.660134I$ $a=-0.418260+0.619628I$ $b=\ \ 1.051910+0.341857I$	$-2.64189-2.94712I$	0
$u=\ \ 0.936978+0.373185I$ $a=\ \ 0.652429-0.083726I$ $b=\ \ 0.041110+0.447920I$	$6.51007+1.78657I$	0
$u=\ \ 0.936978-0.373185I$ $a=\ \ 0.652429+0.083726I$ $b=\ \ 0.041110-0.447920I$	$6.51007-1.78657I$	0
$u=-0.101390+0.907405I$ $a=-0.846291+0.518149I$ $b=-0.597672+0.210243I$	$1.37944-3.96642I$	0
$u=-0.101390-0.907405I$ $a=-0.846291-0.518149I$ $b=-0.597672-0.210243I$	$1.37944+3.96642I$	0
$u=\ \ 0.651492+0.873430I$ $a=-0.411850-0.833116I$ $b=-1.246290+0.572677I$	$0.38169+13.20470I$	0
$u=\ \ 0.651492-0.873430I$ $a=-0.411850+0.833116I$ $b=-1.246290-0.572677I$	$0.38169-13.20470I$	0
$u=\ \ 0.905341$ $a=\ \ 0.739427$ $b=-1.62008$	-7.39496	0
$u=-0.561511+0.671788I$ $a=\ \ 0.20921-1.46205I$ $b=\ \ 1.200880+0.244534I$	$-3.26168-6.50239I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.561511-0.671788I$ $a=\ \ 0.20921+1.46205I$ $b=\ \ 1.200880-0.244534I$	$-3.26168+6.50239I$	0
$u=-0.380686+0.733717I$ $a=\ \ 0.574255-0.663992I$ $b=\ \ 1.254820+0.607843I$	$-3.66994-7.66735I$	0
$u=-0.380686-0.733717I$ $a=\ \ 0.574255+0.663992I$ $b=\ \ 1.254820-0.607843I$	$-3.66994+7.66735I$	0
$u=-0.496979+0.655506I$ $a=\ \ 0.281407-0.243550I$ $b=\ \ 1.269220-0.043803I$	$-3.47162+1.98683I$	0
$u=-0.496979-0.655506I$ $a=\ \ 0.281407+0.243550I$ $b=\ \ 1.269220+0.043803I$	$-3.47162-1.98683I$	0
$u=\ \ 0.818206$ $a=\ \ 2.13556$ $b=-1.09275$	4.08306	0
$u=\ \ 0.662406+0.453421I$ $a=-0.235423+0.522548I$ $b=-0.064412-1.004580I$	$3.86389+7.67810I$	0
$u=\ \ 0.662406-0.453421I$ $a=-0.235423-0.522548I$ $b=-0.064412+1.004580I$	$3.86389-7.67810I$	0
$u=\ \ 0.523831+1.105700I$ $a=-0.105946-0.261595I$ $b=-1.031180-0.382990I$	$-0.13947-6.93665I$	0
$u=\ \ 0.523831-1.105700I$ $a=-0.105946+0.261595I$ $b=-1.031180+0.382990I$	$-0.13947+6.93665I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.450653 + 0.606011I$ $a = -0.110925 - 1.084860I$ $b = -1.283860 + 0.169700I$	$-7.12534 + 2.00701I$	0
$u = 0.450653 - 0.606011I$ $a = -0.110925 + 1.084860I$ $b = -1.283860 - 0.169700I$	$-7.12534 - 2.00701I$	0
$u = -0.365780 + 0.654899I$ $a = -0.639028 + 0.869862I$ $b = -0.365840 - 0.469149I$	$1.00378 - 3.95796I$	0
$u = -0.365780 - 0.654899I$ $a = -0.639028 - 0.869862I$ $b = -0.365840 + 0.469149I$	$1.00378 + 3.95796I$	0
$u = -0.656614 + 0.362229I$ $a = 0.0542687 + 0.0829791I$ $b = -0.631447 + 0.366281I$	$1.010570 + 0.037156I$	0
$u = -0.656614 - 0.362229I$ $a = 0.0542687 - 0.0829791I$ $b = -0.631447 - 0.366281I$	$1.010570 - 0.037156I$	0
$u = -0.347291 + 0.663112I$ $a = -1.069160 + 0.749279I$ $b = -0.979170 - 0.487234I$	$-0.08310 - 3.86265I$	0
$u = -0.347291 - 0.663112I$ $a = -1.069160 - 0.749279I$ $b = -0.979170 + 0.487234I$	$-0.08310 + 3.86265I$	0
$u = -0.391345 + 0.627891I$ $a = -1.11464 + 1.09083I$ $b = -0.966274 - 0.492186I$	$-0.05253 - 3.83284I$	0
$u = -0.391345 - 0.627891I$ $a = -1.11464 - 1.09083I$ $b = -0.966274 + 0.492186I$	$-0.05253 + 3.83284I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.271100+0.059881I$ $a=-0.26161+1.40515I$ $b=-0.440116-0.157984I$	$2.03091+1.52575I$	0
$u=-1.271100-0.059881I$ $a=-0.26161-1.40515I$ $b=-0.440116+0.157984I$	$2.03091-1.52575I$	0
$u=\ \ 0.722291+0.051213I$ $a=-1.62389+0.90390I$ $b=\ \ 0.804246-0.598002I$	$1.59199-1.46670I$	0
$u=\ \ 0.722291-0.051213I$ $a=-1.62389-0.90390I$ $b=\ \ 0.804246+0.598002I$	$1.59199+1.46670I$	0
$u=-0.485156+0.504923I$ $a=\ \ 0.377985-0.473286I$ $b=-0.316264+0.537966I$	$1.47556+0.10354I$	0
$u=-0.485156-0.504923I$ $a=\ \ 0.377985+0.473286I$ $b=-0.316264-0.537966I$	$1.47556-0.10354I$	0
$u=\ \ 0.652970+1.136450I$ $a=\ \ 0.431392+0.440530I$ $b=\ \ 1.072920-0.439287I$	$4.12271+5.39603I$	0
$u=\ \ 0.652970-1.136450I$ $a=\ \ 0.431392-0.440530I$ $b=\ \ 1.072920+0.439287I$	$4.12271-5.39603I$	0
$u=-0.685910$ $a=-0.246736$ $b=-0.433093$	0.890789	0
$u=\ \ 1.39035$ $a=\ \ 3.75335$ $b=-3.80795$	5.21323	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.399680 + 0.087417I$ $a = -0.38568 - 1.67583I$ $b = 0.558612 + 0.259158I$	$5.78712 + 6.53835I$	0
$u = 1.399680 - 0.087417I$ $a = -0.38568 + 1.67583I$ $b = 0.558612 - 0.259158I$	$5.78712 - 6.53835I$	0
$u = -1.400530 + 0.115235I$ $a = -0.38152 - 1.52179I$ $b = 0.782265 + 0.573377I$	$3.64494 - 2.28231I$	0
$u = -1.400530 - 0.115235I$ $a = -0.38152 + 1.52179I$ $b = 0.782265 - 0.573377I$	$3.64494 + 2.28231I$	0
$u = -1.41818 + 0.01985I$ $a = -1.78789 - 3.09256I$ $b = 2.08833 + 2.72201I$	$4.68486 + 0.26157I$	0
$u = -1.41818 - 0.01985I$ $a = -1.78789 + 3.09256I$ $b = 2.08833 - 2.72201I$	$4.68486 - 0.26157I$	0
$u = 1.40357 + 0.23061I$ $a = -0.008833 + 0.931264I$ $b = 1.236100 - 0.413960I$	$3.29811 + 2.26423I$	0
$u = 1.40357 - 0.23061I$ $a = -0.008833 - 0.931264I$ $b = 1.236100 + 0.413960I$	$3.29811 - 2.26423I$	0
$u = 1.43957 + 0.02655I$ $a = -0.651757 - 0.245845I$ $b = 1.316080 + 0.146662I$	$3.35235 + 0.02455I$	0
$u = 1.43957 - 0.02655I$ $a = -0.651757 + 0.245845I$ $b = 1.316080 - 0.146662I$	$3.35235 - 0.02455I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.43958 + 0.09510I$ $a = 0.62498 + 1.27990I$ $b = -0.599662 - 0.585723I$	$7.52065 + 1.93273I$	0
$u = 1.43958 - 0.09510I$ $a = 0.62498 - 1.27990I$ $b = -0.599662 + 0.585723I$	$7.52065 - 1.93273I$	0
$u = -1.45637 + 0.00770I$ $a = 0.039120 + 1.009860I$ $b = -1.359020 - 0.383649I$	$9.19651 - 0.99992I$	0
$u = -1.45637 - 0.00770I$ $a = 0.039120 - 1.009860I$ $b = -1.359020 + 0.383649I$	$9.19651 + 0.99992I$	0
$u = -1.46744 + 0.01290I$ $a = -0.05298 - 1.79361I$ $b = 1.117730 + 0.579902I$	$7.50489 - 5.71904I$	0
$u = -1.46744 - 0.01290I$ $a = -0.05298 + 1.79361I$ $b = 1.117730 - 0.579902I$	$7.50489 + 5.71904I$	0
$u = 1.45767 + 0.24111I$ $a = -0.47894 + 1.68889I$ $b = 1.36486 - 0.89980I$	$2.25200 + 11.14920I$	0
$u = 1.45767 - 0.24111I$ $a = -0.47894 - 1.68889I$ $b = 1.36486 + 0.89980I$	$2.25200 - 11.14920I$	0
$u = 1.46515 + 0.22421I$ $a = 0.16687 - 1.54702I$ $b = -1.166860 + 0.696988I$	$5.81806 + 7.08117I$	0
$u = 1.46515 - 0.22421I$ $a = 0.16687 + 1.54702I$ $b = -1.166860 - 0.696988I$	$5.81806 - 7.08117I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.46946+0.19795I$ $a=\ \ 0.74012+1.33954I$ $b=-1.167030-0.485918I$	$-0.91244-4.91882I$	0
$u=-1.46946-0.19795I$ $a=\ \ 0.74012-1.33954I$ $b=-1.167030+0.485918I$	$-0.91244+4.91882I$	0
$u=\ \ 1.39576+0.53376I$ $a=\ \ 0.189616+0.503312I$ $b=\ \ 0.520698+0.028555I$	$6.45396+2.02499I$	0
$u=\ \ 1.39576-0.53376I$ $a=\ \ 0.189616-0.503312I$ $b=\ \ 0.520698-0.028555I$	$6.45396-2.02499I$	0
$u=\ \ 1.48191+0.26155I$ $a=-0.08251-1.46403I$ $b=-0.680631+0.669773I$	$6.98172+7.44981I$	0
$u=\ \ 1.48191-0.26155I$ $a=-0.08251+1.46403I$ $b=-0.680631-0.669773I$	$6.98172-7.44981I$	0
$u=\ \ 1.51340+0.06368I$ $a=\ \ 0.519798+1.055950I$ $b=-0.410844-0.828111I$	$7.91657+1.31701I$	0
$u=\ \ 1.51340-0.06368I$ $a=\ \ 0.519798-1.055950I$ $b=-0.410844+0.828111I$	$7.91657-1.31701I$	0
$u=\ \ 1.50217+0.21346I$ $a=\ \ 0.18452-1.71021I$ $b=-1.048460+0.615613I$	$6.22115+6.89414I$	0
$u=\ \ 1.50217-0.21346I$ $a=\ \ 0.18452+1.71021I$ $b=-1.048460-0.615613I$	$6.22115-6.89414I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.55288+0.15662I$ $a=\ \ 0.32381-1.59916I$ $b=-0.24255+1.46889I$	$11.1954-10.0068I$	0
$u=-1.55288-0.15662I$ $a=\ \ 0.32381+1.59916I$ $b=-0.24255-1.46889I$	$11.1954+10.0068I$	0
$u=-0.025265+0.430438I$ $a=\ \ 1.50952+1.48306I$ $b=\ \ 0.668301+0.118557I$	$-1.202850+0.483660I$	$-4.55970+1.18319I$
$u=-0.025265-0.430438I$ $a=\ \ 1.50952-1.48306I$ $b=\ \ 0.668301-0.118557I$	$-1.202850-0.483660I$	$-4.55970-1.18319I$
$u=\ \ 1.55291+0.22303I$ $a=-0.62785+1.55930I$ $b=\ \ 1.104160-0.431801I$	$3.73273+9.79679I$	0
$u=\ \ 1.55291-0.22303I$ $a=-0.62785-1.55930I$ $b=\ \ 1.104160+0.431801I$	$3.73273-9.79679I$	0
$u=-1.59493+0.15891I$ $a=-0.173089+1.219070I$ $b=\ \ 0.227269-1.134870I$	$14.7475-4.1486I$	0
$u=-1.59493-0.15891I$ $a=-0.173089-1.219070I$ $b=\ \ 0.227269+1.134870I$	$14.7475+4.1486I$	0
$u=-0.263578+0.291460I$ $a=-0.327340+0.152958I$ $b=-0.905011+1.083140I$	$0.448592+0.918224I$	$4.55809+12.61038I$
$u=-0.263578-0.291460I$ $a=-0.327340-0.152958I$ $b=-0.905011-1.083140I$	$0.448592-0.918224I$	$4.55809-12.61038I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.58652+0.29743I$ $a=\ \ 0.36085+1.51692I$ $b=-1.36467-0.75652I$	$7.6756-17.5314I$	0
$u=-1.58652-0.29743I$ $a=\ \ 0.36085-1.51692I$ $b=-1.36467+0.75652I$	$7.6756+17.5314I$	0
$u=-1.62548+0.07252I$ $a=-0.690393-0.963420I$ $b=\ \ 0.344934+0.690280I$	$9.73410+0.77955I$	0
$u=-1.62548-0.07252I$ $a=-0.690393+0.963420I$ $b=\ \ 0.344934-0.690280I$	$9.73410-0.77955I$	0
$u=-1.63242$ $a=\ \ 1.49914$ $b=-0.727141$	12.5284	0
$u=\ \ 0.060339+0.361917I$ $a=\ \ 1.09542+1.69316I$ $b=\ \ 0.652611-0.069393I$	$-1.221060+0.471555I$	$-5.19431-0.44409I$
$u=\ \ 0.060339-0.361917I$ $a=\ \ 1.09542-1.69316I$ $b=\ \ 0.652611+0.069393I$	$-1.221060-0.471555I$	$-5.19431+0.44409I$
$u=-1.60187+0.33615I$ $a=-0.212049-1.278830I$ $b=\ \ 1.29576+0.66671I$	$11.4391-10.5221I$	0
$u=-1.60187-0.33615I$ $a=-0.212049+1.278830I$ $b=\ \ 1.29576-0.66671I$	$11.4391+10.5221I$	0
$u=\ \ 1.73495$ $a=-0.540652$ $b=\ \ 0.633937$	6.52917	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.64465+0.57114I$ $a=-0.021397+0.670503I$ $b=-1.173420-0.398009I$	$5.87495-2.46826I$	0
$u=-1.64465-0.57114I$ $a=-0.021397-0.670503I$ $b=-1.173420+0.398009I$	$5.87495+2.46826I$	0
$u=0.112870+0.195686I$ $a=1.43436+0.89523I$ $b=1.09114-1.27035I$	$-0.384516-0.802457I$	$-4.4738-22.9416I$
$u=0.112870-0.195686I$ $a=1.43436-0.89523I$ $b=1.09114+1.27035I$	$-0.384516+0.802457I$	$-4.4738+22.9416I$
$u=0.203707+0.028208I$ $a=1.93686-8.64962I$ $b=0.798444+0.440266I$	$1.72855-5.65485I$	$9.03689+7.91182I$
$u=0.203707-0.028208I$ $a=1.93686+8.64962I$ $b=0.798444-0.440266I$	$1.72855+5.65485I$	$9.03689-7.91182I$
$u=0.167144+0.003550I$ $a=-6.70304-5.00229I$ $b=-0.988849+0.291096I$	$3.59911+0.92364I$	$5.70852-0.99827I$
$u=0.167144-0.003550I$ $a=-6.70304+5.00229I$ $b=-0.988849-0.291096I$	$3.59911-0.92364I$	$5.70852+0.99827I$
$u=-2.11117$ $a=0.0909028$ $b=-0.618667$	8.75658	0

II. $I_2^u = \langle 187u^{15} - 333u^{14} + \cdots + 71b - 316,\ 68u^{15} - 205u^{14} + \cdots + 71a - 457,\ u^{16} - 2u^{15} + \cdots - 6u - 1\rangle$

(i) Arc colorings

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

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

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

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

$$a_4 = \begin{pmatrix} -0.957746u^{15} + 2.88732u^{14} + \cdots + 10.4648u + 6.43662 \\ -2.63380u^{15} + 4.69014u^{14} + \cdots + 11.0282u + 4.45070 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -2.57746u^{15} + 5.87324u^{14} + \cdots + 18.6479u + 10.3662 \\ -2.50704u^{15} + 4.35211u^{14} + \cdots + 9.42254u + 3.76056 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -3.59155u^{15} + 7.57746u^{14} + \cdots + 21.4930u + 10.8873 \\ -2.63380u^{15} + 4.69014u^{14} + \cdots + 11.0282u + 4.45070 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.267606u^{15} - 1.38028u^{14} + \cdots - 8.05634u + 1.09859 \\ 0.676056u^{15} + 0.197183u^{14} + \cdots + 12.4366u + 4.98592 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 1.46479u^{15} - 3.23944u^{14} + \cdots - 18.8873u - 3.19718 \\ -2.84507u^{15} + 3.25352u^{14} + \cdots - 1.29577u + 2.26761 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -2.63380u^{15} + 4.69014u^{14} + \cdots + 8.02817u + 6.45070 \\ -0.760563u^{15} + 0.0281690u^{14} + \cdots - 0.366197u + 1.14085 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -2u^{15} + 3u^{14} + \cdots - u + 2 \\ -0.323944u^{15} + 0.197183u^{14} + \cdots + 5.43662u + 1.98592 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{214}{71}u^{15} - \frac{973}{71}u^{14} + \cdots - \frac{3184}{71}u - \frac{250}{71}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{16} - 6u^{15} + \cdots - 11u + 1$
c_2	$u^{16} + 5u^{15} + \cdots + 3u + 1$
c_3	$u^{16} - u^{15} + \cdots - u - 1$
c_4	$u^{16} - 11u^{14} + \cdots - 9u + 1$
c_5	$u^{16} - 5u^{15} + \cdots - 3u + 1$
c_6	$u^{16} + 2u^{15} + \cdots + u - 1$
c_7	$u^{16} + u^{15} + \cdots + u - 1$
c_8, c_9	$u^{16} - 2u^{15} + \cdots - 6u - 1$
c_{10}	$u^{16} - 11u^{14} + \cdots + 9u + 1$
c_{11}	$u^{16} - 2u^{15} + \cdots - u - 1$
c_{12}	$u^{16} + 2u^{15} + \cdots + 6u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{16} - 2y^{15} + \cdots - 21y + 1$
c_2, c_5	$y^{16} - 15y^{15} + \cdots - 27y + 1$
c_3, c_7	$y^{16} - 19y^{15} + \cdots - 19y + 1$
c_4, c_{10}	$y^{16} - 22y^{15} + \cdots - 39y + 1$
c_6, c_{11}	$y^{16} - 18y^{15} + \cdots - 49y + 1$
c_8, c_9, c_{12}	$y^{16} - 22y^{15} + \cdots - 30y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.931033$ $a=-0.129306$ $b=-0.761120$	0.460564	-7.23990
$u=-0.839750$ $a=-0.822764$ $b=\ \ 1.58692$	-7.52932	-28.4780
$u=\ \ 0.733239$ $a=-2.27208$ $b=\ \ 0.856867$	4.77255	12.8330
$u=\ \ 0.011134+0.698922I$ $a=-1.86477-0.24882I$ $b=-0.825449-0.338768I$	$0.86280-5.46754I$	$0.81609+6.50543I$
$u=\ \ 0.011134-0.698922I$ $a=-1.86477+0.24882I$ $b=-0.825449+0.338768I$	$0.86280+5.46754I$	$0.81609-6.50543I$
$u=\ \ 1.34394$ $a=-1.84817$ $b=\ \ 1.92615$	5.40039	13.3440
$u=-1.45687$ $a=\ \ 2.22379$ $b=-2.80462$	4.55552	18.0260
$u=\ \ 1.44376+0.20567I$ $a=-0.07182-1.90856I$ $b=-0.857594+0.563765I$	$5.91039+8.42936I$	$4.57561-9.78666I$
$u=\ \ 1.44376-0.20567I$ $a=-0.07182+1.90856I$ $b=-0.857594-0.563765I$	$5.91039-8.42936I$	$4.57561+9.78666I$
$u=\ \ 1.36399+0.52591I$ $a=\ \ 0.343669+0.775057I$ $b=\ \ 1.085140-0.318825I$	$5.06570+3.53944I$	$6.10083-5.41679I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 1.36399 - 0.52591I$ $a = \ 0.343669 - 0.775057I$ $b = \ 1.085140 + 0.318825I$	$5.06570 - 3.53944I$	$6.10083 + 5.41679I$
$u = -1.61553$ $a = -1.47646$ $b = \ 0.578270$	12.8265	21.8930
$u = \ 1.68524$ $a = -0.0522246$ $b = \ 0.362196$	6.88195	13.3710
$u = -0.266288 + 0.043343I$ $a = \ 1.58642 + 1.04311I$ $b = -0.412260 + 0.963905I$	$-0.138512 - 1.003180I$	$6.34798 - 0.39102I$
$u = -0.266288 - 0.043343I$ $a = \ 1.58642 - 1.04311I$ $b = -0.412260 - 0.963905I$	$-0.138512 + 1.003180I$	$6.34798 + 0.39102I$
$u = -2.02444$ $a = \ 0.390217$ $b = -0.724345$	8.44870	-3.42940

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{16}-6u^{15}+\cdots-11u+1)(u^{99}-u^{98}+\cdots-420367u-86857)$
c_2	$(u^{16}+5u^{15}+\cdots+3u+1)(u^{99}-30u^{97}+\cdots+7u-1)$
c_3	$(u^{16}-u^{15}+\cdots-u-1)(u^{99}-2u^{98}+\cdots-303u+61)$
c_4	$(u^{16}-11u^{14}+\cdots-9u+1)(u^{99}-u^{98}+\cdots-39u+937)$
c_5	$(u^{16}-5u^{15}+\cdots-3u+1)(u^{99}-30u^{97}+\cdots+7u-1)$
c_6	$(u^{16}+2u^{15}+\cdots+u-1)(u^{99}+u^{98}+\cdots-5u+1)$
c_7	$(u^{16}+u^{15}+\cdots+u-1)(u^{99}-2u^{98}+\cdots-303u+61)$
c_8, c_9	$(u^{16}-2u^{15}+\cdots-6u-1)(u^{99}-3u^{98}+\cdots-20u-1)$
c_{10}	$(u^{16}-11u^{14}+\cdots+9u+1)(u^{99}-u^{98}+\cdots-39u+937)$
c_{11}	$(u^{16}-2u^{15}+\cdots-u-1)(u^{99}+u^{98}+\cdots-5u+1)$
c_{12}	$(u^{16}+2u^{15}+\cdots+6u-1)(u^{99}-3u^{98}+\cdots-20u-1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{16} - 2y^{15} + \cdots - 21y + 1)$ $\cdot (y^{99} + 29y^{98} + \cdots + 12950485171y - 7544138449)$
c_2, c_5	$(y^{16} - 15y^{15} + \cdots - 27y + 1)(y^{99} - 60y^{98} + \cdots + 125y - 1)$
c_3, c_7	$(y^{16} - 19y^{15} + \cdots - 19y + 1)(y^{99} - 60y^{98} + \cdots + 178673y - 3721)$
c_4, c_{10}	$(y^{16} - 22y^{15} + \cdots - 39y + 1)$ $\cdot (y^{99} - 83y^{98} + \cdots + 55082129y - 877969)$
c_6, c_{11}	$(y^{16} - 18y^{15} + \cdots - 49y + 1)(y^{99} - 67y^{98} + \cdots + 147y - 1)$
c_8, c_9, c_{12}	$(y^{16} - 22y^{15} + \cdots - 30y + 1)(y^{99} - 107y^{98} + \cdots + 92y - 1)$