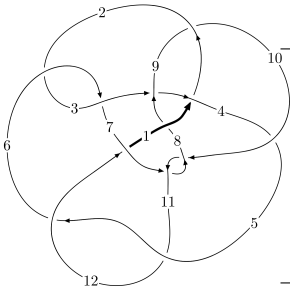
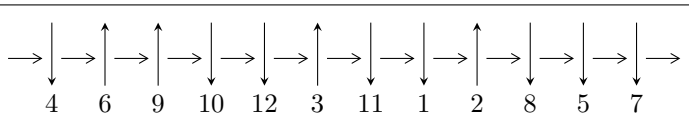
$12a_{0922}$ $(K12a_{0922})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -4.33030 \times 10^{1482} u^{197} - 8.31840 \times 10^{1482} u^{196} + \cdots + 5.08986 \times 10^{1483} b - 3.67386 \times 10^{1487}, \\ & 6.23201 \times 10^{1487} u^{197} + 1.16404 \times 10^{1488} u^{196} + \cdots + 4.53166 \times 10^{1488} a + 6.49088 \times 10^{1492}, \\ & u^{198} + u^{197} + \cdots - 1502406u - 89033 \rangle \\ I_2^u = \langle & -7.38108 \times 10^{78} u^{56} + 2.03170 \times 10^{79} u^{55} + \cdots + 4.01238 \times 10^{78} b - 4.19152 \times 10^{78}, \\ & -4.91319 \times 10^{78} u^{56} + 1.93609 \times 10^{79} u^{55} + \cdots + 4.01238 \times 10^{78} a + 3.19386 \times 10^{78}, \ u^{57} - 2u^{56} + \cdots + 7u - \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 255 representations.

[1]The image of knot diagram is generated by the software "**Draw programme**" developed by Andrew Bartholomew(`http://www.layer8.co.uk/maths/draw/index.htm#Running-draw`), where we modified some parts for our purpose(`https://github.com/CATsTAILs/LinksPainter`).

[2]All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

I. $I_1^u = \langle -4.33 \times 10^{1482} u^{197} - 8.32 \times 10^{1482} u^{196} + \cdots + 5.09 \times 10^{1483} b - 3.67 \times 10^{1487},\ 6.23 \times 10^{1487} u^{197} + 1.16 \times 10^{1488} u^{196} + \cdots + 4.53 \times 10^{1488} a + 6.49 \times 10^{1492},\ u^{198} + u^{197} + \cdots - 1502406u - 89033 \rangle$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.137522u^{197} - 0.256868u^{196} + \cdots - 257540.u - 14323.4 \\ 0.0850769u^{197} + 0.163431u^{196} + \cdots + 129633.u + 7218.00 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} -0.0524447u^{197} - 0.0934372u^{196} + \cdots - 127907.u - 7105.41 \\ 0.0850769u^{197} + 0.163431u^{196} + \cdots + 129633.u + 7218.00 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.110451u^{197} + 0.206797u^{196} + \cdots + 174835.u + 9688.16 \\ -0.0186996u^{197} - 0.0351781u^{196} + \cdots - 26798.6u - 1481.48 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0836670u^{197} + 0.176503u^{196} + \cdots + 142987.u + 8077.11 \\ 0.0528392u^{197} + 0.100875u^{196} + \cdots + 93354.4u + 5195.69 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0121678u^{197} - 0.0236557u^{196} + \cdots - 18829.4u - 1038.53 \\ 0.0507746u^{197} + 0.0932345u^{196} + \cdots + 76768.4u + 4239.01 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.0597915u^{197} + 0.116686u^{196} + \cdots + 108658.u + 6080.30 \\ -0.0628572u^{197} - 0.119933u^{196} + \cdots - 104786.u - 5835.55 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.116474u^{197} + 0.235488u^{196} + \cdots + 199053.u + 11195.1 \\ 0.0673832u^{197} + 0.121228u^{196} + \cdots + 126606.u + 7001.79 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.172309u^{197} - 0.339160u^{196} + \cdots - 303862.u - 17016.3 \\ -0.0514320u^{197} - 0.0902693u^{196} + \cdots - 98636.6u - 5439.58 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.316742u^{197} - 0.593665u^{196} + \cdots - 519214.u - 28823.3$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{198} - 13u^{197} + \cdots - 79u + 47$
c_2, c_6	$u^{198} - 44u^{196} + \cdots + 4u - 1$
c_3	$u^{198} - 2u^{197} + \cdots - 317u - 23$
c_4	$u^{198} - 32u^{196} + \cdots + 16388029166u - 6212469373$
c_5, c_{11}	$u^{198} + u^{197} + \cdots - 1502406u - 89033$
c_7, c_{10}	$u^{198} + 15u^{197} + \cdots - 46454u + 12173$
c_8	$u^{198} - 7u^{196} + \cdots - 6925u - 181$
c_9	$u^{198} + 3u^{197} + \cdots + 18797u - 3181$
c_{12}	$u^{198} - 12u^{196} + \cdots - 4308718u - 110767$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{198} - 9y^{197} + \cdots - 185029y + 2209$
c_2, c_6	$y^{198} - 88y^{197} + \cdots - 48y + 1$
c_3	$y^{198} + 28y^{197} + \cdots + 36775y + 529$
c_4	$y^{198} - 64y^{197} + \cdots - 7.98 \times 10^{20}y + 3.86 \times 10^{19}$
c_5, c_{11}	$y^{198} - 119y^{197} + \cdots + 2069262907500y + 7926875089$
c_7, c_{10}	$y^{198} + 107y^{197} + \cdots + 8292010772y + 148181929$
c_8	$y^{198} - 14y^{197} + \cdots - 8988859y + 32761$
c_9	$y^{198} + 47y^{197} + \cdots + 695194011y + 10118761$
c_{12}	$y^{198} - 24y^{197} + \cdots - 172765777322y + 12269328289$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.979597 + 0.260723I$ $a = -0.189061 + 0.971484I$ $b = 0.23238 - 1.78984I$	$2.35768 - 8.58224I$	0
$u = 0.979597 - 0.260723I$ $a = -0.189061 - 0.971484I$ $b = 0.23238 + 1.78984I$	$2.35768 + 8.58224I$	0
$u = -0.976264 + 0.289248I$ $a = 1.052900 + 0.583265I$ $b = 0.310457 - 1.237310I$	$0.881847 + 0.059937I$	0
$u = -0.976264 - 0.289248I$ $a = 1.052900 - 0.583265I$ $b = 0.310457 + 1.237310I$	$0.881847 - 0.059937I$	0
$u = 1.020100 + 0.034531I$ $a = -0.319655 + 0.225581I$ $b = -2.15211 + 0.01386I$	$-7.61481 - 0.13040I$	0
$u = 1.020100 - 0.034531I$ $a = -0.319655 - 0.225581I$ $b = -2.15211 - 0.01386I$	$-7.61481 + 0.13040I$	0
$u = 0.263199 + 0.926297I$ $a = 0.80177 + 1.49507I$ $b = -0.207876 - 1.091400I$	$3.95365 - 0.06681I$	0
$u = 0.263199 - 0.926297I$ $a = 0.80177 - 1.49507I$ $b = -0.207876 + 1.091400I$	$3.95365 + 0.06681I$	0
$u = -0.927670 + 0.242740I$ $a = -1.56795 + 0.56102I$ $b = -0.379394 + 1.076750I$	$3.82507 + 2.32250I$	0
$u = -0.927670 - 0.242740I$ $a = -1.56795 - 0.56102I$ $b = -0.379394 - 1.076750I$	$3.82507 - 2.32250I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.501779+0.913475I$ $a=\ \ 0.782654+0.425143I$ $b=-0.802456-0.357086I$	$-0.59594-2.49768I$	0
$u=-0.501779-0.913475I$ $a=\ \ 0.782654-0.425143I$ $b=-0.802456+0.357086I$	$-0.59594+2.49768I$	0
$u=-0.047048+1.049100I$ $a=\ \ 0.49318-1.79961I$ $b=-0.501460+1.063930I$	$1.42910+2.33740I$	0
$u=-0.047048-1.049100I$ $a=\ \ 0.49318+1.79961I$ $b=-0.501460-1.063930I$	$1.42910-2.33740I$	0
$u=-0.938760+0.132915I$ $a=-1.65662+0.75214I$ $b=-0.565123-0.938852I$	$-1.06331+2.15989I$	0
$u=-0.938760-0.132915I$ $a=-1.65662-0.75214I$ $b=-0.565123+0.938852I$	$-1.06331-2.15989I$	0
$u=\ \ 0.815697+0.464782I$ $a=\ \ 0.392530+0.686869I$ $b=\ \ 0.151914-1.052260I$	$2.32733-5.14885I$	0
$u=\ \ 0.815697-0.464782I$ $a=\ \ 0.392530-0.686869I$ $b=\ \ 0.151914+1.052260I$	$2.32733+5.14885I$	0
$u=-1.007520+0.342004I$ $a=-0.613795-0.604715I$ $b=-0.83829+1.17462I$	$0.36079+3.51595I$	0
$u=-1.007520-0.342004I$ $a=-0.613795+0.604715I$ $b=-0.83829-1.17462I$	$0.36079-3.51595I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.927398 + 0.088914I$ $a = 1.37670 - 1.77368I$ $b = 0.381932 + 0.901393I$	$-3.72888 + 2.13591I$	0
$u = 0.927398 - 0.088914I$ $a = 1.37670 + 1.77368I$ $b = 0.381932 - 0.901393I$	$-3.72888 - 2.13591I$	0
$u = -0.168521 + 1.056970I$ $a = -0.46516 - 1.41329I$ $b = 0.495151 + 1.182070I$	$0.08704 - 8.95349I$	0
$u = -0.168521 - 1.056970I$ $a = -0.46516 + 1.41329I$ $b = 0.495151 - 1.182070I$	$0.08704 + 8.95349I$	0
$u = 0.923379 + 0.072047I$ $a = -1.18541 + 0.92189I$ $b = -0.780980 - 1.026960I$	$-3.66143 - 3.37349I$	0
$u = 0.923379 - 0.072047I$ $a = -1.18541 - 0.92189I$ $b = -0.780980 + 1.026960I$	$-3.66143 + 3.37349I$	0
$u = -0.896238 + 0.183671I$ $a = 0.03102 + 2.02801I$ $b = -0.21018 - 1.43390I$	$4.04748 - 0.45155I$	0
$u = -0.896238 - 0.183671I$ $a = 0.03102 - 2.02801I$ $b = -0.21018 + 1.43390I$	$4.04748 + 0.45155I$	0
$u = 0.233523 + 0.883108I$ $a = 0.70717 - 1.63292I$ $b = -0.107911 + 1.095810I$	$3.38191 + 1.92510I$	0
$u = 0.233523 - 0.883108I$ $a = 0.70717 + 1.63292I$ $b = -0.107911 - 1.095810I$	$3.38191 - 1.92510I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.136988+0.900713I$ $a=-0.476512-1.029880I$ $b=\ 0.718550+0.145352I$	$-0.16053+10.00250I$	0
$u=-0.136988-0.900713I$ $a=-0.476512+1.029880I$ $b=\ 0.718550-0.145352I$	$-0.16053-10.00250I$	0
$u=\ 0.708454+0.565926I$ $a=\ 1.70528-0.58052I$ $b=-0.131908+0.810522I$	$2.82086+1.40498I$	0
$u=\ 0.708454-0.565926I$ $a=\ 1.70528+0.58052I$ $b=-0.131908-0.810522I$	$2.82086-1.40498I$	0
$u=\ 0.900531+0.104086I$ $a=\ 1.52200-2.55400I$ $b=\ 0.338264+1.119880I$	$-2.62353-5.87241I$	0
$u=\ 0.900531-0.104086I$ $a=\ 1.52200+2.55400I$ $b=\ 0.338264-1.119880I$	$-2.62353+5.87241I$	0
$u=-0.850384+0.282276I$ $a=-1.64099-0.82602I$ $b=-0.81680+1.23776I$	$1.14556+3.63840I$	0
$u=-0.850384-0.282276I$ $a=-1.64099+0.82602I$ $b=-0.81680-1.23776I$	$1.14556-3.63840I$	0
$u=\ 0.662912+0.580008I$ $a=\ 0.037633-0.249211I$ $b=\ 0.733552-0.555839I$	$3.18898-4.96316I$	0
$u=\ 0.662912-0.580008I$ $a=\ 0.037633+0.249211I$ $b=\ 0.733552+0.555839I$	$3.18898+4.96316I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.557443 + 0.971178I$ $a = -0.10731 + 1.44505I$ $b = 0.196276 - 1.263900I$	$8.58430 - 2.33740I$	0
$u = 0.557443 - 0.971178I$ $a = -0.10731 - 1.44505I$ $b = 0.196276 + 1.263900I$	$8.58430 + 2.33740I$	0
$u = -0.734174 + 0.485394I$ $a = 1.22171 + 1.00924I$ $b = 0.872071 - 0.815605I$	$-2.10640 + 5.17792I$	0
$u = -0.734174 - 0.485394I$ $a = 1.22171 - 1.00924I$ $b = 0.872071 + 0.815605I$	$-2.10640 - 5.17792I$	0
$u = -0.792531 + 0.370863I$ $a = 0.741431 + 0.937490I$ $b = -0.315153 - 1.355050I$	$1.161100 - 0.703311I$	0
$u = -0.792531 - 0.370863I$ $a = 0.741431 - 0.937490I$ $b = -0.315153 + 1.355050I$	$1.161100 + 0.703311I$	0
$u = 0.177797 + 0.853715I$ $a = 0.138766 + 1.309750I$ $b = -0.342734 - 1.259750I$	$3.87522 - 6.03569I$	0
$u = 0.177797 - 0.853715I$ $a = 0.138766 - 1.309750I$ $b = -0.342734 + 1.259750I$	$3.87522 + 6.03569I$	0
$u = 0.635180 + 0.577984I$ $a = 0.647589 - 0.748435I$ $b = 0.671037 + 0.114686I$	$3.28378 + 0.45135I$	0
$u = 0.635180 - 0.577984I$ $a = 0.647589 + 0.748435I$ $b = 0.671037 - 0.114686I$	$3.28378 - 0.45135I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.045113+0.856350I$ $a=\ \ 0.820081-0.647200I$ $b=-0.794105+0.166584I$	$-0.853809-0.592160I$	0
$u=-0.045113-0.856350I$ $a=\ \ 0.820081+0.647200I$ $b=-0.794105-0.166584I$	$-0.853809+0.592160I$	0
$u=\ \ 1.142060+0.161533I$ $a=\ \ 0.1003130-0.0633660I$ $b=-0.922173+0.757257I$	$-4.61441+2.54335I$	0
$u=\ \ 1.142060-0.161533I$ $a=\ \ 0.1003130+0.0633660I$ $b=-0.922173-0.757257I$	$-4.61441-2.54335I$	0
$u=-0.506283+0.675726I$ $a=-0.02688+2.50530I$ $b=-0.249569-1.354820I$	$4.91856-6.02156I$	0
$u=-0.506283-0.675726I$ $a=-0.02688-2.50530I$ $b=-0.249569+1.354820I$	$4.91856+6.02156I$	0
$u=\ \ 0.608107+0.984785I$ $a=-0.280278+1.040850I$ $b=\ \ 0.494304-1.160540I$	$6.19488+4.90482I$	0
$u=\ \ 0.608107-0.984785I$ $a=-0.280278-1.040850I$ $b=\ \ 0.494304+1.160540I$	$6.19488-4.90482I$	0
$u=-0.304620+0.777921I$ $a=-0.437231-0.840797I$ $b=\ \ 0.438292+0.958129I$	$-0.889629+0.261396I$	0
$u=-0.304620-0.777921I$ $a=-0.437231+0.840797I$ $b=\ \ 0.438292-0.958129I$	$-0.889629-0.261396I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.160150+0.117757I$ $a=\ \ 1.79454+2.02242I$ $b=\ \ 0.314837-1.079780I$	$-1.42635+9.26825I$	0
$u=-1.160150-0.117757I$ $a=\ \ 1.79454-2.02242I$ $b=\ \ 0.314837+1.079780I$	$-1.42635-9.26825I$	0
$u=\ \ 1.106630+0.412631I$ $a=-0.682247+1.090760I$ $b=-0.732521-0.705142I$	$-4.60405-3.43602I$	0
$u=\ \ 1.106630-0.412631I$ $a=-0.682247-1.090760I$ $b=-0.732521+0.705142I$	$-4.60405+3.43602I$	0
$u=-0.279419+1.149800I$ $a=\ \ 0.11153-1.50317I$ $b=\ \ 0.229769+0.683294I$	$1.56406+2.77703I$	0
$u=-0.279419-1.149800I$ $a=\ \ 0.11153+1.50317I$ $b=\ \ 0.229769-0.683294I$	$1.56406-2.77703I$	0
$u=-0.410248+1.115180I$ $a=\ \ 0.55928+1.57154I$ $b=-0.530668-1.182190I$	$2.14827-5.50631I$	0
$u=-0.410248-1.115180I$ $a=\ \ 0.55928-1.57154I$ $b=-0.530668+1.182190I$	$2.14827+5.50631I$	0
$u=-0.905157+0.784606I$ $a=-0.47554-1.41442I$ $b=-0.451115+1.251490I$	$3.08111+4.19846I$	0
$u=-0.905157-0.784606I$ $a=-0.47554+1.41442I$ $b=-0.451115-1.251490I$	$3.08111-4.19846I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.800205+0.024004I$ $a=-0.484727-0.798596I$ $b=-0.21088+1.74073I$	$2.27467+1.75857I$	0
$u=-0.800205-0.024004I$ $a=-0.484727+0.798596I$ $b=-0.21088-1.74073I$	$2.27467-1.75857I$	0
$u=-1.116820+0.445193I$ $a=-2.06452-0.93486I$ $b=-0.305509+1.184810I$	$2.92985+10.37130I$	0
$u=-1.116820-0.445193I$ $a=-2.06452+0.93486I$ $b=-0.305509-1.184810I$	$2.92985-10.37130I$	0
$u=0.769876+0.172017I$ $a=-2.47157+0.62337I$ $b=0.048276-0.581657I$	$-2.85734+3.87017I$	0
$u=0.769876-0.172017I$ $a=-2.47157-0.62337I$ $b=0.048276+0.581657I$	$-2.85734-3.87017I$	0
$u=-0.175775+0.768286I$ $a=0.50056-1.78693I$ $b=-0.351951+1.127870I$	$1.67309+3.12894I$	0
$u=-0.175775-0.768286I$ $a=0.50056+1.78693I$ $b=-0.351951-1.127870I$	$1.67309-3.12894I$	0
$u=-1.135560+0.423353I$ $a=1.131220+0.538508I$ $b=0.058157-0.755420I$	$-1.14308+1.17111I$	0
$u=-1.135560-0.423353I$ $a=1.131220-0.538508I$ $b=0.058157+0.755420I$	$-1.14308-1.17111I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.176090 + 0.305718I$ $a = -1.25836 + 0.68930I$ $b = -0.384668 - 1.204050I$	$0.22725 - 6.10508I$	0
$u = 1.176090 - 0.305718I$ $a = -1.25836 - 0.68930I$ $b = -0.384668 + 1.204050I$	$0.22725 + 6.10508I$	0
$u = 1.034210 + 0.641460I$ $a = 0.62441 - 1.81211I$ $b = 0.418808 + 1.074290I$	$-3.45159 - 7.69792I$	0
$u = 1.034210 - 0.641460I$ $a = 0.62441 + 1.81211I$ $b = 0.418808 - 1.074290I$	$-3.45159 + 7.69792I$	0
$u = 0.762032 + 0.173424I$ $a = 0.42193 + 1.63478I$ $b = -0.11090 - 1.41412I$	$3.43568 - 5.23237I$	0
$u = 0.762032 - 0.173424I$ $a = 0.42193 - 1.63478I$ $b = -0.11090 + 1.41412I$	$3.43568 + 5.23237I$	0
$u = 0.529126 + 0.573400I$ $a = 1.43554 - 0.82711I$ $b = 0.325156 + 0.660389I$	$3.04077 + 0.89233I$	0
$u = 0.529126 - 0.573400I$ $a = 1.43554 + 0.82711I$ $b = 0.325156 - 0.660389I$	$3.04077 - 0.89233I$	0
$u = 1.026230 + 0.673966I$ $a = 1.00425 - 1.18053I$ $b = 0.721214 + 1.152090I$	$4.79177 - 10.87540I$	0
$u = 1.026230 - 0.673966I$ $a = 1.00425 + 1.18053I$ $b = 0.721214 - 1.152090I$	$4.79177 + 10.87540I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.712233+0.290826I$ $a=\ \ 0.141789+0.331055I$ $b=-0.771426+0.122269I$	$-0.929046-0.207361I$	0
$u=-0.712233-0.290826I$ $a=\ \ 0.141789-0.331055I$ $b=-0.771426-0.122269I$	$-0.929046+0.207361I$	0
$u=-1.183510+0.365187I$ $a=\ \ 0.028659+0.180138I$ $b=\ \ 1.327950+0.348197I$	$-6.56609+7.76406I$	0
$u=-1.183510-0.365187I$ $a=\ \ 0.028659-0.180138I$ $b=\ \ 1.327950-0.348197I$	$-6.56609-7.76406I$	0
$u=-1.209690+0.276570I$ $a=-0.293178+0.056195I$ $b=-1.234310-0.204350I$	$-4.26845+4.61546I$	0
$u=-1.209690-0.276570I$ $a=-0.293178-0.056195I$ $b=-1.234310+0.204350I$	$-4.26845-4.61546I$	0
$u=-0.754441+0.067741I$ $a=-3.56272-0.92628I$ $b=\ \ 0.011360-0.696650I$	$0.41867+8.79188I$	0
$u=-0.754441-0.067741I$ $a=-3.56272+0.92628I$ $b=\ \ 0.011360+0.696650I$	$0.41867-8.79188I$	0
$u=\ \ 1.086760+0.619671I$ $a=\ \ 1.18871-0.96479I$ $b=\ \ 0.412226+1.168010I$	$6.78055-3.37631I$	0
$u=\ \ 1.086760-0.619671I$ $a=\ \ 1.18871+0.96479I$ $b=\ \ 0.412226-1.168010I$	$6.78055+3.37631I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.270080 + 0.055018I$ $a = -0.379329 - 0.656340I$ $b = 0.154052 - 0.333312I$	$-5.09500 - 3.08368I$	0
$u = 1.270080 - 0.055018I$ $a = -0.379329 + 0.656340I$ $b = 0.154052 + 0.333312I$	$-5.09500 + 3.08368I$	0
$u = 1.269240 + 0.094138I$ $a = -0.301446 + 0.108605I$ $b = -0.812410 - 0.491297I$	$-5.05761 - 2.60184I$	0
$u = 1.269240 - 0.094138I$ $a = -0.301446 - 0.108605I$ $b = -0.812410 + 0.491297I$	$-5.05761 + 2.60184I$	0
$u = 1.228750 + 0.357514I$ $a = -1.01042 + 1.21694I$ $b = -0.387228 - 1.276550I$	$0.07264 - 6.30877I$	0
$u = 1.228750 - 0.357514I$ $a = -1.01042 - 1.21694I$ $b = -0.387228 + 1.276550I$	$0.07264 + 6.30877I$	0
$u = 1.282770 + 0.052590I$ $a = -0.127945 + 0.164082I$ $b = -1.374820 - 0.015392I$	$-7.14303 - 0.14296I$	0
$u = 1.282770 - 0.052590I$ $a = -0.127945 - 0.164082I$ $b = -1.374820 + 0.015392I$	$-7.14303 + 0.14296I$	0
$u = -1.282350 + 0.064269I$ $a = 1.106420 + 0.768518I$ $b = 0.354343 - 0.805256I$	$-2.92696 + 0.97701I$	0
$u = -1.282350 - 0.064269I$ $a = 1.106420 - 0.768518I$ $b = 0.354343 + 0.805256I$	$-2.92696 - 0.97701I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.679009+1.090280I$ $a=\ \ 0.486180+1.029770I$ $b=-0.175095-1.120710I$	$4.03858+2.46429I$	0
$u=-0.679009-1.090280I$ $a=\ \ 0.486180-1.029770I$ $b=-0.175095+1.120710I$	$4.03858-2.46429I$	0
$u=-0.036225+0.706446I$ $a=\ \ 0.769671-0.809009I$ $b=\ \ 0.327036+0.007228I$	$1.08781+2.85990I$	0
$u=-0.036225-0.706446I$ $a=\ \ 0.769671+0.809009I$ $b=\ \ 0.327036-0.007228I$	$1.08781-2.85990I$	0
$u=-1.221800+0.442566I$ $a=\ \ 0.100722-0.438112I$ $b=-1.259940-0.114087I$	$-4.49363+5.18580I$	0
$u=-1.221800-0.442566I$ $a=\ \ 0.100722+0.438112I$ $b=-1.259940+0.114087I$	$-4.49363-5.18580I$	0
$u=\ \ 1.295570+0.104886I$ $a=-0.550743+0.071135I$ $b=-0.690131-0.518035I$	$-5.01509-2.62915I$	0
$u=\ \ 1.295570-0.104886I$ $a=-0.550743-0.071135I$ $b=-0.690131+0.518035I$	$-5.01509+2.62915I$	0
$u=\ \ 1.076480+0.741253I$ $a=\ \ 0.24885-1.47781I$ $b=\ \ 0.500348+0.894562I$	$-4.42888-0.03613I$	0
$u=\ \ 1.076480-0.741253I$ $a=\ \ 0.24885+1.47781I$ $b=\ \ 0.500348-0.894562I$	$-4.42888+0.03613I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.307990 + 0.044041I$ $a = -0.020225 + 0.652051I$ $b = 0.232896 + 0.768467I$	$-4.41580 - 5.02154I$	0
$u = 1.307990 - 0.044041I$ $a = -0.020225 - 0.652051I$ $b = 0.232896 - 0.768467I$	$-4.41580 + 5.02154I$	0
$u = 0.612975 + 0.312850I$ $a = 1.66035 + 0.01014I$ $b = 0.467947 + 1.224820I$	$3.35650 + 5.98593I$	0
$u = 0.612975 - 0.312850I$ $a = 1.66035 - 0.01014I$ $b = 0.467947 - 1.224820I$	$3.35650 - 5.98593I$	0
$u = 0.178329 + 1.319670I$ $a = -0.28924 + 1.42018I$ $b = 0.503420 - 1.179340I$	$2.8308 + 14.6360I$	0
$u = 0.178329 - 1.319670I$ $a = -0.28924 - 1.42018I$ $b = 0.503420 + 1.179340I$	$2.8308 - 14.6360I$	0
$u = 1.284230 + 0.372979I$ $a = -0.244364 - 0.001855I$ $b = 0.430411 - 0.416559I$	$-5.43378 - 4.03328I$	0
$u = 1.284230 - 0.372979I$ $a = -0.244364 + 0.001855I$ $b = 0.430411 + 0.416559I$	$-5.43378 + 4.03328I$	0
$u = 0.257008 + 1.317090I$ $a = -0.094348 + 1.248230I$ $b = 0.415651 - 1.010570I$	$3.00562 + 5.91271I$	0
$u = 0.257008 - 1.317090I$ $a = -0.094348 - 1.248230I$ $b = 0.415651 + 1.010570I$	$3.00562 - 5.91271I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.278090 + 0.418530I$ $a = -0.78035 + 1.23257I$ $b = -0.69929 - 1.38064I$	$-3.01502 - 7.26205I$	0
$u = 1.278090 - 0.418530I$ $a = -0.78035 - 1.23257I$ $b = -0.69929 + 1.38064I$	$-3.01502 + 7.26205I$	0
$u = -1.286520 + 0.447581I$ $a = 0.331168 + 0.285181I$ $b = -0.855837 - 0.630391I$	$-2.78477 + 2.87021I$	0
$u = -1.286520 - 0.447581I$ $a = 0.331168 - 0.285181I$ $b = -0.855837 + 0.630391I$	$-2.78477 - 2.87021I$	0
$u = 1.286810 + 0.456009I$ $a = 0.196952 + 0.024240I$ $b = 0.873718 - 0.397053I$	$-2.99408 - 7.35034I$	0
$u = 1.286810 - 0.456009I$ $a = 0.196952 - 0.024240I$ $b = 0.873718 + 0.397053I$	$-2.99408 + 7.35034I$	0
$u = 0.117722 + 0.619642I$ $a = 0.01099 - 2.45819I$ $b = -0.174322 + 1.272920I$	$3.60457 + 2.54654I$	0
$u = 0.117722 - 0.619642I$ $a = 0.01099 + 2.45819I$ $b = -0.174322 - 1.272920I$	$3.60457 - 2.54654I$	0
$u = 1.217190 + 0.647996I$ $a = 1.173440 - 0.702487I$ $b = 0.028418 + 0.841407I$	$1.03857 - 5.80487I$	0
$u = 1.217190 - 0.647996I$ $a = 1.173440 + 0.702487I$ $b = 0.028418 - 0.841407I$	$1.03857 + 5.80487I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.150460+0.762336I$ $a=-0.294021-1.344820I$ $b=-0.724659+0.783303I$	$-2.34950+8.62386I$	0
$u=-1.150460-0.762336I$ $a=-0.294021+1.344820I$ $b=-0.724659-0.783303I$	$-2.34950-8.62386I$	0
$u=-1.345570+0.313788I$ $a=-0.282050+0.292986I$ $b=-0.681423+0.244915I$	$-2.75137+6.88077I$	0
$u=-1.345570-0.313788I$ $a=-0.282050-0.292986I$ $b=-0.681423-0.244915I$	$-2.75137-6.88077I$	0
$u=1.302200+0.465055I$ $a=-0.009539-0.187635I$ $b=1.236700-0.234581I$	$-4.4336-14.8398I$	0
$u=1.302200-0.465055I$ $a=-0.009539+0.187635I$ $b=1.236700+0.234581I$	$-4.4336+14.8398I$	0
$u=1.38817$ $a=-0.116298$ $b=-1.30663$	-7.29892	0
$u=1.356290+0.309630I$ $a=-0.607646+1.010160I$ $b=-0.71062-1.37658I$	$-3.16116-6.98788I$	0
$u=1.356290-0.309630I$ $a=-0.607646-1.010160I$ $b=-0.71062+1.37658I$	$-3.16116+6.98788I$	0
$u=-1.309230+0.471557I$ $a=0.240722-0.286113I$ $b=0.709637+0.698338I$	$-4.06427+0.05951I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.309230-0.471557I$ $a=\ \ 0.240722+0.286113I$ $b=\ \ 0.709637-0.698338I$	$-4.06427-0.05951I$	0
$u=\ \ 1.365370+0.326521I$ $a=-0.637843+0.963507I$ $b=-0.70151-1.35965I$	$-3.17643-6.98755I$	0
$u=\ \ 1.365370-0.326521I$ $a=-0.637843-0.963507I$ $b=-0.70151+1.35965I$	$-3.17643+6.98755I$	0
$u=-1.403820+0.126762I$ $a=\ \ 0.076520+0.899805I$ $b=\ \ 0.140352+0.549545I$	$-3.33434+6.76943I$	0
$u=-1.403820-0.126762I$ $a=\ \ 0.076520-0.899805I$ $b=\ \ 0.140352-0.549545I$	$-3.33434-6.76943I$	0
$u=-1.29006+0.58629I$ $a=\ \ 0.80376+1.21865I$ $b=\ \ 0.71564-1.31495I$	$-3.4090+14.8133I$	0
$u=-1.29006-0.58629I$ $a=\ \ 0.80376-1.21865I$ $b=\ \ 0.71564+1.31495I$	$-3.4090-14.8133I$	0
$u=-1.24957+0.66862I$ $a=-0.80872-1.54816I$ $b=-0.66278+1.36546I$	$-0.59263+11.88910I$	0
$u=-1.24957-0.66862I$ $a=-0.80872+1.54816I$ $b=-0.66278-1.36546I$	$-0.59263-11.88910I$	0
$u=-1.23362+0.70272I$ $a=\ \ 0.801729+1.031940I$ $b=\ \ 0.661169-1.004160I$	$-3.13435+5.35720I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.23362-0.70272I$ $a=\ \ 0.801729-1.031940I$ $b=\ \ 0.661169+1.004160I$	$-3.13435-5.35720I$	0
$u=-1.34763+0.50788I$ $a=\ \ 0.88441+1.27400I$ $b=\ \ 0.396367-1.012980I$	$-2.45138+3.21479I$	0
$u=-1.34763-0.50788I$ $a=\ \ 0.88441-1.27400I$ $b=\ \ 0.396367+1.012980I$	$-2.45138-3.21479I$	0
$u=-0.555207$ $a=\ \ 0.917553$ $b=-0.490896$	-1.33667	0
$u=-1.38342+0.51207I$ $a=-0.721198-0.893492I$ $b=-0.67121+1.29345I$	$-0.87928+11.21970I$	0
$u=-1.38342-0.51207I$ $a=-0.721198+0.893492I$ $b=-0.67121-1.29345I$	$-0.87928-11.21970I$	0
$u=\ \ 1.39645+0.51625I$ $a=-0.582485+1.091290I$ $b=-0.440642-1.255560I$	$-0.48107-6.49433I$	0
$u=\ \ 1.39645-0.51625I$ $a=-0.582485-1.091290I$ $b=-0.440642+1.255560I$	$-0.48107+6.49433I$	0
$u=-0.457286+0.213449I$ $a=-3.19667-3.39166I$ $b=-0.265841+0.587860I$	$2.07764+0.65872I$	0
$u=-0.457286-0.213449I$ $a=-3.19667+3.39166I$ $b=-0.265841-0.587860I$	$2.07764-0.65872I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.48165+0.25649I$ $a=\ 0.281198-0.224665I$ $b=\ 0.459640+0.601437I$	$-3.73979-0.35334I$	0
$u=-1.48165-0.25649I$ $a=\ 0.281198+0.224665I$ $b=\ 0.459640-0.601437I$	$-3.73979+0.35334I$	0
$u=-1.51408+0.13758I$ $a=\ 0.673358+0.183426I$ $b=\ 0.322688-0.837248I$	$-2.89679+2.07569I$	0
$u=-1.51408-0.13758I$ $a=\ 0.673358-0.183426I$ $b=\ 0.322688+0.837248I$	$-2.89679-2.07569I$	0
$u=\ 0.139160+0.458902I$ $a=-1.15256+1.79713I$ $b=\ 0.673156-0.066899I$	$-3.02970-4.44980I$	0
$u=\ 0.139160-0.458902I$ $a=-1.15256-1.79713I$ $b=\ 0.673156+0.066899I$	$-3.02970+4.44980I$	0
$u=\ 1.37469+0.65835I$ $a=\ 0.78914-1.28760I$ $b=\ 0.66821+1.32090I$	$-0.9996-21.4803I$	0
$u=\ 1.37469-0.65835I$ $a=\ 0.78914+1.28760I$ $b=\ 0.66821-1.32090I$	$-0.9996+21.4803I$	0
$u=\ 1.37460+0.66174I$ $a=\ 0.810641-1.133750I$ $b=\ 0.608069+1.149210I$	$-0.68746-12.82480I$	0
$u=\ 1.37460-0.66174I$ $a=\ 0.810641+1.133750I$ $b=\ 0.608069-1.149210I$	$-0.68746+12.82480I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.50287 + 0.33146I$ $a = -0.289135 + 0.368710I$ $b = 0.359426 - 0.660340I$	$-5.23827 + 3.77550I$	0
$u = 1.50287 - 0.33146I$ $a = -0.289135 - 0.368710I$ $b = 0.359426 + 0.660340I$	$-5.23827 - 3.77550I$	0
$u = -0.279103 + 0.356294I$ $a = 0.528470 - 0.375605I$ $b = -0.160230 + 0.336033I$	$-0.303790 + 1.078580I$	$-4.00000 - 5.77111I$
$u = -0.279103 - 0.356294I$ $a = 0.528470 + 0.375605I$ $b = -0.160230 - 0.336033I$	$-0.303790 - 1.078580I$	$-4.00000 + 5.77111I$
$u = -1.41877 + 0.62957I$ $a = 0.292929 + 1.213900I$ $b = 0.521980 - 0.839230I$	$-3.55097 - 4.01750I$	0
$u = -1.41877 - 0.62957I$ $a = 0.292929 - 1.213900I$ $b = 0.521980 + 0.839230I$	$-3.55097 + 4.01750I$	0
$u = -1.47254 + 0.76601I$ $a = -0.462344 - 1.163080I$ $b = -0.449829 + 1.255960I$	$1.39302 + 11.02540I$	0
$u = -1.47254 - 0.76601I$ $a = -0.462344 + 1.163080I$ $b = -0.449829 - 1.255960I$	$1.39302 - 11.02540I$	0
$u = -0.091974 + 0.233647I$ $a = -1.38587 - 0.95150I$ $b = -0.746654 - 0.312678I$	$-0.89126 - 2.31640I$	$-11.7391 + 10.1305I$
$u = -0.091974 - 0.233647I$ $a = -1.38587 + 0.95150I$ $b = -0.746654 + 0.312678I$	$-0.89126 + 2.31640I$	$-11.7391 - 10.1305I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.75372+0.21271I$ $a=-0.055424-0.497166I$ $b=\ \ 0.419179+0.723116I$	$-3.96258-7.99279I$	0
$u=-1.75372-0.21271I$ $a=-0.055424+0.497166I$ $b=\ \ 0.419179-0.723116I$	$-3.96258+7.99279I$	0
$u=\ \ 0.11820+1.79158I$ $a=\ \ 0.185989-1.205870I$ $b=-0.187375+0.906875I$	$4.93869-0.71918I$	0
$u=\ \ 0.11820-1.79158I$ $a=\ \ 0.185989+1.205870I$ $b=-0.187375-0.906875I$	$4.93869+0.71918I$	0
$u=-0.46274+1.75937I$ $a=\ \ 0.235894+1.155100I$ $b=-0.227905-0.975226I$	$5.26201-2.48860I$	0
$u=-0.46274-1.75937I$ $a=\ \ 0.235894-1.155100I$ $b=-0.227905+0.975226I$	$5.26201+2.48860I$	0
$u=-0.0276562+0.0637880I$ $a=-12.04850-4.57317I$ $b=-0.421687-1.058820I$	$1.66565-4.60976I$	$-5.82478+8.40892I$
$u=-0.0276562-0.0637880I$ $a=-12.04850+4.57317I$ $b=-0.421687+1.058820I$	$1.66565+4.60976I$	$-5.82478-8.40892I$

II.

$\boldsymbol{I_2^u = \langle -7.38\times 10^{78}u^{56}+2.03\times 10^{79}u^{55}+\cdots+4.01\times 10^{78}b-4.19\times 10^{78},\ -4.91\times 10^{78}u^{56}+1.94\times 10^{79}u^{55}+\cdots+4.01\times 10^{78}a+3.19\times 10^{78},\ u^{57}-2u^{56}+\cdots+7u-1\rangle}$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 1.22451u^{56} - 4.82528u^{55} + \cdots + 37.2799u - 0.796002 \\ 1.83957u^{56} - 5.06357u^{55} + \cdots - 4.20275u + 1.04465 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} 3.06408u^{56} - 9.88885u^{55} + \cdots + 33.0771u + 0.248644 \\ 1.83957u^{56} - 5.06357u^{55} + \cdots - 4.20275u + 1.04465 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.475622u^{56} + 3.85623u^{55} + \cdots - 67.8473u + 14.0628 \\ 1.44975u^{56} - 4.30705u^{55} + \cdots + 11.6490u - 3.28486 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -2.21652u^{56} + 5.22434u^{55} + \cdots + 27.1883u - 8.52593 \\ -0.236865u^{56} + 0.519938u^{55} + \cdots - 1.77978u + 1.69596 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -3.33384u^{56} + 7.60236u^{55} + \cdots + 32.4235u - 8.39523 \\ -6.02667u^{56} + 15.9501u^{55} + \cdots - 54.8294u + 8.11628 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 2.10191u^{56} - 1.91308u^{55} + \cdots - 115.819u + 15.3197 \\ -1.06323u^{56} + 0.812994u^{55} + \cdots + 2.82622u - 3.06330 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -2.23749u^{56} + 6.32934u^{55} + \cdots - 18.2282u - 2.71256 \\ 0.135843u^{56} - 1.08798u^{55} + \cdots - 7.02066u + 0.748556 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -1.23657u^{56} + 3.19390u^{55} + \cdots - 19.6814u - 2.62616 \\ 0.412526u^{56} - 1.83711u^{55} + \cdots + 3.36866u - 0.471444 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -u \\ -u^3 + u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -9.62885u^{56} + 20.3762u^{55} + \cdots + 102.911u - 11.3756$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{57} - 4u^{56} + \cdots + 10u - 1$
c_2	$u^{57} - u^{56} + \cdots + 3u - 1$
c_3	$u^{57} + u^{56} + \cdots - 6u + 1$
c_4	$u^{57} + u^{56} + \cdots + 3759u + 637$
c_5	$u^{57} + 2u^{56} + \cdots + 7u + 1$
c_6	$u^{57} + u^{56} + \cdots + 3u + 1$
c_7	$u^{57} - 16u^{56} + \cdots + 91u - 11$
c_8	$u^{57} - u^{56} + \cdots + 74u + 7$
c_9	$u^{57} + 18u^{55} + \cdots - 4u + 1$
c_{10}	$u^{57} + 16u^{56} + \cdots + 91u + 11$
c_{11}	$u^{57} - 2u^{56} + \cdots + 7u - 1$
c_{12}	$u^{57} - u^{56} + \cdots + 21u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{57} + 4y^{56} + \cdots + 14y - 1$
c_2, c_6	$y^{57} - 23y^{56} + \cdots + 45y - 1$
c_3	$y^{57} + 21y^{56} + \cdots - 34y - 1$
c_4	$y^{57} - 23y^{56} + \cdots + 336483y - 405769$
c_5, c_{11}	$y^{57} - 34y^{56} + \cdots + 9y - 1$
c_7, c_{10}	$y^{57} + 32y^{56} + \cdots - 4611y - 121$
c_8	$y^{57} + 15y^{56} + \cdots + 1724y - 49$
c_9	$y^{57} + 36y^{56} + \cdots - 2y - 1$
c_{12}	$y^{57} - 15y^{56} + \cdots - 665y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.994933 + 0.071393I$ $a = -0.350556 + 0.214306I$ $b = -2.21775 + 0.12150I$	$-7.55452 - 0.28563I$	$1.5711 + 33.0820I$
$u = 0.994933 - 0.071393I$ $a = -0.350556 - 0.214306I$ $b = -2.21775 - 0.12150I$	$-7.55452 + 0.28563I$	$1.5711 - 33.0820I$
$u = -0.960396 + 0.331067I$ $a = 1.04492 + 2.46046I$ $b = 0.314992 - 1.104230I$	$-2.42326 + 6.56171I$	$-4.00000 - 9.77974I$
$u = -0.960396 - 0.331067I$ $a = 1.04492 - 2.46046I$ $b = 0.314992 + 1.104230I$	$-2.42326 - 6.56171I$	$-4.00000 + 9.77974I$
$u = -0.150772 + 1.007700I$ $a = 0.031440 + 1.360360I$ $b = -0.352624 - 1.142950I$	$3.65068 - 4.95190I$	$0. + 4.48791I$
$u = -0.150772 - 1.007700I$ $a = 0.031440 - 1.360360I$ $b = -0.352624 + 1.142950I$	$3.65068 + 4.95190I$	$0. - 4.48791I$
$u = -0.876492 + 0.326823I$ $a = -1.24014 - 0.84719I$ $b = -0.69420 + 1.32240I$	$1.58889 + 3.54667I$	$2.92002 - 5.61145I$
$u = -0.876492 - 0.326823I$ $a = -1.24014 + 0.84719I$ $b = -0.69420 - 1.32240I$	$1.58889 - 3.54667I$	$2.92002 + 5.61145I$
$u = 0.344698 + 1.053390I$ $a = -0.02435 - 1.76594I$ $b = -0.191235 + 0.708170I$	$1.72891 - 2.67435I$	0
$u = 0.344698 - 1.053390I$ $a = -0.02435 + 1.76594I$ $b = -0.191235 - 0.708170I$	$1.72891 + 2.67435I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.778378 + 0.380392I$ $a = 2.54792 - 2.71099I$ $b = 0.254937 + 0.869404I$	$0.72652 - 9.58756I$	$-1.55118 + 11.87973I$
$u = 0.778378 - 0.380392I$ $a = 2.54792 + 2.71099I$ $b = 0.254937 - 0.869404I$	$0.72652 + 9.58756I$	$-1.55118 - 11.87973I$
$u = -1.081040 + 0.373836I$ $a = 0.66609 + 1.60068I$ $b = 0.384509 - 0.910068I$	$-3.62681 - 1.11472I$	0
$u = -1.081040 - 0.373836I$ $a = 0.66609 - 1.60068I$ $b = 0.384509 + 0.910068I$	$-3.62681 + 1.11472I$	0
$u = -0.817016 + 0.183511I$ $a = 0.403455 + 0.919297I$ $b = -0.23766 - 1.67338I$	$2.27335 - 1.05986I$	$-1.72638 - 1.69049I$
$u = -0.817016 - 0.183511I$ $a = 0.403455 - 0.919297I$ $b = -0.23766 + 1.67338I$	$2.27335 + 1.05986I$	$-1.72638 + 1.69049I$
$u = -0.780735 + 0.155515I$ $a = 2.22502 + 0.97714I$ $b = 0.607468 - 0.649183I$	$-3.37067 + 4.79425I$	$-9.30975 - 9.76431I$
$u = -0.780735 - 0.155515I$ $a = 2.22502 - 0.97714I$ $b = 0.607468 + 0.649183I$	$-3.37067 - 4.79425I$	$-9.30975 + 9.76431I$
$u = -1.229000 + 0.023417I$ $a = -0.192599 + 0.088995I$ $b = 0.579991 - 0.317971I$	$-5.46269 + 4.25092I$	0
$u = -1.229000 - 0.023417I$ $a = -0.192599 - 0.088995I$ $b = 0.579991 + 0.317971I$	$-5.46269 - 4.25092I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.743293 + 0.099833I$ $a = 1.266700 + 0.254376I$ $b = 0.15648 - 1.46503I$	$2.84086 - 7.32387I$	$-2.59048 + 7.71533I$
$u = 0.743293 - 0.099833I$ $a = 1.266700 - 0.254376I$ $b = 0.15648 + 1.46503I$	$2.84086 + 7.32387I$	$-2.59048 - 7.71533I$
$u = -1.218260 + 0.356327I$ $a = -0.217425 - 0.143385I$ $b = -1.040260 - 0.077134I$	$-3.51520 + 5.09996I$	0
$u = -1.218260 - 0.356327I$ $a = -0.217425 + 0.143385I$ $b = -1.040260 + 0.077134I$	$-3.51520 - 5.09996I$	0
$u = -1.246190 + 0.252115I$ $a = -0.637734 + 0.487405I$ $b = 0.094092 + 0.530767I$	$-4.62823 + 4.10817I$	0
$u = -1.246190 - 0.252115I$ $a = -0.637734 - 0.487405I$ $b = 0.094092 - 0.530767I$	$-4.62823 - 4.10817I$	0
$u = 1.256840 + 0.224611I$ $a = -0.75814 + 1.21163I$ $b = -0.259768 - 1.359050I$	$0.03733 - 7.67551I$	0
$u = 1.256840 - 0.224611I$ $a = -0.75814 - 1.21163I$ $b = -0.259768 + 1.359050I$	$0.03733 + 7.67551I$	0
$u = 1.130050 + 0.596182I$ $a = -0.836660 + 1.015450I$ $b = -0.730072 - 1.038780I$	$-2.86621 - 5.35133I$	0
$u = 1.130050 - 0.596182I$ $a = -0.836660 - 1.015450I$ $b = -0.730072 + 1.038780I$	$-2.86621 + 5.35133I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.324546+0.607871I$ $a=\ \ 0.446378+0.032284I$ $b=-0.750455-0.198108I$	$-0.48297-1.59898I$	$-5.31222+1.42151I$
$u=-0.324546-0.607871I$ $a=\ \ 0.446378-0.032284I$ $b=-0.750455+0.198108I$	$-0.48297+1.59898I$	$-5.31222-1.42151I$
$u=-0.051332+0.666914I$ $a=\ \ 0.41413-2.64307I$ $b=-0.443723+1.126480I$	$2.18130+2.83710I$	$-2.34308-5.90874I$
$u=-0.051332-0.666914I$ $a=\ \ 0.41413+2.64307I$ $b=-0.443723-1.126480I$	$2.18130-2.83710I$	$-2.34308+5.90874I$
$u=\ \ 1.42122$ $a=-0.101282$ $b=-1.27550$	-7.11837	0
$u=\ \ 1.39888+0.32239I$ $a=-0.638513+1.059850I$ $b=-0.67469-1.37423I$	$-2.95656-6.79733I$	0
$u=\ \ 1.39888-0.32239I$ $a=-0.638513-1.059850I$ $b=-0.67469+1.37423I$	$-2.95656+6.79733I$	0
$u=\ \ 1.38544+0.38993I$ $a=-0.308483-0.267286I$ $b=-0.660882+0.643259I$	$-4.15475+0.08964I$	0
$u=\ \ 1.38544-0.38993I$ $a=-0.308483+0.267286I$ $b=-0.660882-0.643259I$	$-4.15475-0.08964I$	0
$u=-1.43914+0.12493I$ $a=-0.170469+0.230835I$ $b=\ \ 0.204311+0.801841I$	$-4.38402-3.85670I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.43914-0.12493I$ $a=-0.170469-0.230835I$ $b=\ \ 0.204311-0.801841I$	$-4.38402+3.85670I$	0
$u=-1.32963+0.61775I$ $a=-0.774505-1.161800I$ $b=-0.598276+1.259310I$	$-0.05810+10.83920I$	0
$u=-1.32963-0.61775I$ $a=-0.774505+1.161800I$ $b=-0.598276-1.259310I$	$-0.05810-10.83920I$	0
$u=\ \ 1.46626+0.11567I$ $a=-0.838567+0.354350I$ $b=-0.423468-0.779505I$	$-3.45227-1.88395I$	0
$u=\ \ 1.46626-0.11567I$ $a=-0.838567-0.354350I$ $b=-0.423468+0.779505I$	$-3.45227+1.88395I$	0
$u=\ \ 1.51795+0.00774I$ $a=-0.456478+0.307171I$ $b=\ \ 0.032933+0.752920I$	$-2.73702-7.18094I$	0
$u=\ \ 1.51795-0.00774I$ $a=-0.456478-0.307171I$ $b=\ \ 0.032933-0.752920I$	$-2.73702+7.18094I$	0
$u=\ \ 0.403466+0.186961I$ $a=\ \ 4.71069-0.63217I$ $b=-0.096225+0.383355I$	$2.10549+0.26160I$	$-2.44805+9.82010I$
$u=\ \ 0.403466-0.186961I$ $a=\ \ 4.71069+0.63217I$ $b=-0.096225-0.383355I$	$2.10549-0.26160I$	$-2.44805-9.82010I$
$u=-0.008608+0.387274I$ $a=-1.39726+1.60193I$ $b=-0.208240-1.331230I$	$4.18559-4.86918I$	$3.88852+2.80453I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.008608-0.387274I$ $a=-1.39726-1.60193I$ $b=-0.208240+1.331230I$	$4.18559+4.86918I$	$3.88852-2.80453I$
$u=-0.06951+1.62323I$ $a=0.281112+1.144090I$ $b=-0.129693-1.004330I$	$5.40324+0.94954I$	0
$u=-0.06951-1.62323I$ $a=0.281112-1.144090I$ $b=-0.129693+1.004330I$	$5.40324-0.94954I$	0
$u=0.29129+1.66511I$ $a=0.337563-1.253950I$ $b=-0.116904+0.961854I$	$5.22634+1.94690I$	0
$u=0.29129-1.66511I$ $a=0.337563+1.253950I$ $b=-0.116904-0.961854I$	$5.22634-1.94690I$	0
$u=0.160584+0.163860I$ $a=5.51709+2.32107I$ $b=-0.165830-1.258160I$	$5.18967-1.29559I$	$5.25505+2.65650I$
$u=0.160584-0.163860I$ $a=5.51709-2.32107I$ $b=-0.165830+1.258160I$	$5.18967+1.29559I$	$5.25505-2.65650I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{57}-4u^{56}+\cdots+10u-1)(u^{198}-13u^{197}+\cdots-79u+47)$
c_2	$(u^{57}-u^{56}+\cdots+3u-1)(u^{198}-44u^{196}+\cdots+4u-1)$
c_3	$(u^{57}+u^{56}+\cdots-6u+1)(u^{198}-2u^{197}+\cdots-317u-23)$
c_4	$(u^{57}+u^{56}+\cdots+3759u+637)$ $\cdot(u^{198}-32u^{196}+\cdots+16388029166u-6212469373)$
c_5	$(u^{57}+2u^{56}+\cdots+7u+1)(u^{198}+u^{197}+\cdots-1502406u-89033)$
c_6	$(u^{57}+u^{56}+\cdots+3u+1)(u^{198}-44u^{196}+\cdots+4u-1)$
c_7	$(u^{57}-16u^{56}+\cdots+91u-11)(u^{198}+15u^{197}+\cdots-46454u+12173)$
c_8	$(u^{57}-u^{56}+\cdots+74u+7)(u^{198}-7u^{196}+\cdots-6925u-181)$
c_9	$(u^{57}+18u^{55}+\cdots-4u+1)(u^{198}+3u^{197}+\cdots+18797u-3181)$
c_{10}	$(u^{57}+16u^{56}+\cdots+91u+11)(u^{198}+15u^{197}+\cdots-46454u+12173)$
c_{11}	$(u^{57}-2u^{56}+\cdots+7u-1)(u^{198}+u^{197}+\cdots-1502406u-89033)$
c_{12}	$(u^{57}-u^{56}+\cdots+21u-1)(u^{198}-12u^{196}+\cdots-4308718u-110767)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{57}+4y^{56}+\cdots+14y-1)(y^{198}-9y^{197}+\cdots-185029y+2209)$
c_2, c_6	$(y^{57}-23y^{56}+\cdots+45y-1)(y^{198}-88y^{197}+\cdots-48y+1)$
c_3	$(y^{57}+21y^{56}+\cdots-34y-1)(y^{198}+28y^{197}+\cdots+36775y+529)$
c_4	$(y^{57}-23y^{56}+\cdots+336483y-405769)$ $\cdot(y^{198}-64y^{197}+\cdots-7.98\times10^{20}y+3.86\times10^{19})$
c_5, c_{11}	$(y^{57}-34y^{56}+\cdots+9y-1)$ $\cdot(y^{198}-119y^{197}+\cdots+2069262907500y+7926875089)$
c_7, c_{10}	$(y^{57}+32y^{56}+\cdots-4611y-121)$ $\cdot(y^{198}+107y^{197}+\cdots+8292010772y+148181929)$
c_8	$(y^{57}+15y^{56}+\cdots+1724y-49)$ $\cdot(y^{198}-14y^{197}+\cdots-8988859y+32761)$
c_9	$(y^{57}+36y^{56}+\cdots-2y-1)$ $\cdot(y^{198}+47y^{197}+\cdots+695194011y+10118761)$
c_{12}	$(y^{57}-15y^{56}+\cdots-665y-1)$ $\cdot(y^{198}-24y^{197}+\cdots-172765777322y+12269328289)$