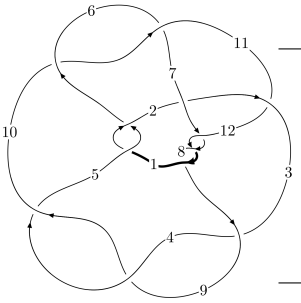
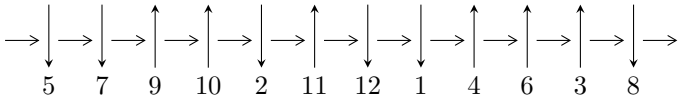
$12a_{1258}$ ($K12a_{1258}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -2.55261 \times 10^{241} u^{98} - 6.00163 \times 10^{241} u^{97} + \cdots + 4.24303 \times 10^{242} b - 1.66484 \times 10^{242},$$
$$- 4.48746 \times 10^{242} u^{98} - 1.03495 \times 10^{243} u^{97} + \cdots + 2.30336 \times 10^{243} a - 1.49280 \times 10^{244},$$
$$u^{99} + 3u^{98} + \cdots + 74u + 19 \rangle$$
$$I_2^u = \langle u^{20} + u^{19} + \cdots + b + 1,\ 11u^{20} + 6u^{19} + \cdots + 2a + 23,\ u^{21} - 14u^{19} + \cdots + u - 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 120 representations.

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

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

I. $\boldsymbol{I_1^u = \langle -2.55 \times 10^{241} u^{98} - 6.00 \times 10^{241} u^{97} + \cdots + 4.24 \times 10^{242} b - 1.66 \times 10^{242},\ -4.49 \times 10^{242} u^{98} - 1.03 \times 10^{243} u^{97} + \cdots + 2.30 \times 10^{243} a - 1.49 \times 10^{244},\ u^{99} + 3u^{98} + \cdots + 74u + 19 \rangle}$

(i) Arc colorings

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

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

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

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

$$a_3 = \begin{pmatrix} 0.194822u^{98} + 0.449324u^{97} + \cdots + 23.8610u + 6.48099 \\ 0.0601601u^{98} + 0.141447u^{97} + \cdots + 1.99506u + 0.392369 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 0.292740u^{98} + 0.655874u^{97} + \cdots + 30.4673u + 7.32334 \\ 0.0214966u^{98} + 0.0592174u^{97} + \cdots + 0.553157u + 0.0275512 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.254983u^{98} + 0.590771u^{97} + \cdots + 25.8561u + 6.87336 \\ 0.0601601u^{98} + 0.141447u^{97} + \cdots + 1.99506u + 0.392369 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.0406568u^{98} + 0.0789464u^{97} + \cdots + 5.22744u - 0.333209 \\ 0.0270023u^{98} + 0.0262813u^{97} + \cdots + 1.59997u + 0.408942 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.123531u^{98} + 0.319533u^{97} + \cdots + 12.3956u + 5.03543 \\ 0.100580u^{98} + 0.217161u^{97} + \cdots + 7.38599u + 1.96953 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.141766u^{98} + 0.350890u^{97} + \cdots + 17.4096u + 3.36732 \\ 0.0519563u^{98} + 0.120722u^{97} + \cdots + 3.19261u + 0.366127 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.0473159u^{98} + 0.197736u^{97} + \cdots + 21.0124u - 0.138025 \\ -0.0392609u^{98} - 0.00751575u^{97} + \cdots - 3.64472u - 1.70638 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.432175u^{98} - 1.12277u^{97} + \cdots - 14.7712u - 6.70211$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_5	$u^{99} - 2u^{98} + \cdots - 168u + 49$
c_2	$u^{99} - 2u^{98} + \cdots + 163u + 17$
c_3, c_4, c_9	$u^{99} - u^{98} + \cdots - 634u - 23$
c_6, c_{10}	$u^{99} - 36u^{97} + \cdots + 52u - 7$
c_7, c_8, c_{12}	$u^{99} - 3u^{98} + \cdots + 74u - 19$
c_{11}	$u^{99} - 5u^{98} + \cdots + 465u^2 - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{99} - 60y^{98} + \cdots + 121030y - 2401$
c_2	$y^{99} - 20y^{98} + \cdots + 25889y - 289$
c_3, c_4, c_9	$y^{99} - 95y^{98} + \cdots + 306322y - 529$
c_6, c_{10}	$y^{99} - 72y^{98} + \cdots + 660y - 49$
c_7, c_8, c_{12}	$y^{99} - 103y^{98} + \cdots - 6038y - 361$
c_{11}	$y^{99} - 7y^{98} + \cdots + 930y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.638994 + 0.739104I$ $a = 0.228661 + 0.744090I$ $b = -0.793896 - 0.324299I$	$-3.35882 - 2.76331I$	0
$u = 0.638994 - 0.739104I$ $a = 0.228661 - 0.744090I$ $b = -0.793896 + 0.324299I$	$-3.35882 + 2.76331I$	0
$u = 0.511185 + 0.944135I$ $a = 0.163975 + 1.264040I$ $b = -1.00260 - 1.02085I$	$6.54384 - 12.43480I$	0
$u = 0.511185 - 0.944135I$ $a = 0.163975 - 1.264040I$ $b = -1.00260 + 1.02085I$	$6.54384 + 12.43480I$	0
$u = 0.540446 + 0.735322I$ $a = 0.18350 - 1.66701I$ $b = 0.911733 + 0.865941I$	$9.94163 - 5.42512I$	0
$u = 0.540446 - 0.735322I$ $a = 0.18350 + 1.66701I$ $b = 0.911733 - 0.865941I$	$9.94163 + 5.42512I$	0
$u = -0.172232 + 0.883812I$ $a = 0.754439 - 0.973326I$ $b = -0.587200 + 0.722324I$	$3.85491 + 2.48956I$	0
$u = -0.172232 - 0.883812I$ $a = 0.754439 + 0.973326I$ $b = -0.587200 - 0.722324I$	$3.85491 - 2.48956I$	0
$u = -0.879167 + 0.061143I$ $a = 1.384480 + 0.052534I$ $b = 0.184132 - 0.062040I$	$2.42479 - 0.00213I$	0
$u = -0.879167 - 0.061143I$ $a = 1.384480 - 0.052534I$ $b = 0.184132 + 0.062040I$	$2.42479 + 0.00213I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.415960+0.773865I$ $a=-0.952838-0.274165I$ $b=\ \ 0.563722+0.793689I$	$0.74742-3.86475I$	0
$u=-0.415960-0.773865I$ $a=-0.952838+0.274165I$ $b=\ \ 0.563722-0.793689I$	$0.74742+3.86475I$	0
$u=\ \ 1.062410+0.380284I$ $a=-1.144630+0.599349I$ $b=-1.39357-0.51108I$	$3.54258+0.66396I$	0
$u=\ \ 1.062410-0.380284I$ $a=-1.144630-0.599349I$ $b=-1.39357+0.51108I$	$3.54258-0.66396I$	0
$u=-0.513689+0.678395I$ $a=-0.10183+1.44799I$ $b=\ \ 1.03582-1.05461I$	$0.41702+8.50479I$	0
$u=-0.513689-0.678395I$ $a=-0.10183-1.44799I$ $b=\ \ 1.03582+1.05461I$	$0.41702-8.50479I$	0
$u=-0.425029+1.086770I$ $a=-0.413391+0.592418I$ $b=\ \ 0.700812-0.301259I$	$1.91325+5.57658I$	0
$u=-0.425029-1.086770I$ $a=-0.413391-0.592418I$ $b=\ \ 0.700812+0.301259I$	$1.91325-5.57658I$	0
$u=\ \ 0.496443+0.664464I$ $a=-0.910416+0.679661I$ $b=\ \ 0.816921-0.775446I$	$9.99441+0.67991I$	0
$u=\ \ 0.496443-0.664464I$ $a=-0.910416-0.679661I$ $b=\ \ 0.816921+0.775446I$	$9.99441-0.67991I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.743531 + 0.998930I$ $a = 0.594722 - 0.257668I$ $b = -0.597670 + 0.831620I$	$5.97682 + 6.13788I$	0
$u = 0.743531 - 0.998930I$ $a = 0.594722 + 0.257668I$ $b = -0.597670 - 0.831620I$	$5.97682 - 6.13788I$	0
$u = 1.251660 + 0.031833I$ $a = -0.0696663 + 0.0094888I$ $b = -0.49160 - 1.82486I$	$-1.66463 - 2.28211I$	0
$u = 1.251660 - 0.031833I$ $a = -0.0696663 - 0.0094888I$ $b = -0.49160 + 1.82486I$	$-1.66463 + 2.28211I$	0
$u = 0.079414 + 0.724598I$ $a = 0.288634 - 1.148690I$ $b = -1.03185 + 1.19062I$	$6.59290 - 4.64406I$	$6.89953 + 3.82909I$
$u = 0.079414 - 0.724598I$ $a = 0.288634 + 1.148690I$ $b = -1.03185 - 1.19062I$	$6.59290 + 4.64406I$	$6.89953 - 3.82909I$
$u = -1.304400 + 0.029599I$ $a = 0.718871 - 1.214870I$ $b = 0.895637 + 0.963892I$	$-0.08248 - 4.61626I$	0
$u = -1.304400 - 0.029599I$ $a = 0.718871 + 1.214870I$ $b = 0.895637 - 0.963892I$	$-0.08248 + 4.61626I$	0
$u = -0.235824 + 0.649282I$ $a = 0.45602 - 1.59993I$ $b = -0.093634 + 0.809627I$	$4.43577 + 3.18480I$	$7.02018 - 3.08430I$
$u = -0.235824 - 0.649282I$ $a = 0.45602 + 1.59993I$ $b = -0.093634 - 0.809627I$	$4.43577 - 3.18480I$	$7.02018 + 3.08430I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.296090+0.243555I$ $a=\ \ 0.154706+0.132203I$ $b=-0.52140-1.78708I$	$2.34220+8.10002I$	0
$u=-1.296090-0.243555I$ $a=\ \ 0.154706-0.132203I$ $b=-0.52140+1.78708I$	$2.34220-8.10002I$	0
$u=\ \ 1.32749$ $a=\ \ 1.13738$ $b=\ \ 1.95283$	6.98424	0
$u=-0.589174+0.319764I$ $a=\ \ 1.203050-0.015067I$ $b=-0.385004-0.457325I$	$2.11743-0.36396I$	$3.49832-0.87137I$
$u=-0.589174-0.319764I$ $a=\ \ 1.203050+0.015067I$ $b=-0.385004+0.457325I$	$2.11743+0.36396I$	$3.49832+0.87137I$
$u=\ \ 1.324120+0.139120I$ $a=-0.266451+0.394339I$ $b=-0.876107-0.467778I$	$-3.33632-0.52697I$	0
$u=\ \ 1.324120-0.139120I$ $a=-0.266451-0.394339I$ $b=-0.876107+0.467778I$	$-3.33632+0.52697I$	0
$u=-1.329680+0.196232I$ $a=\ \ 0.587300+0.598823I$ $b=\ \ 1.54345-1.27752I$	$-3.38231+2.55549I$	0
$u=-1.329680-0.196232I$ $a=\ \ 0.587300-0.598823I$ $b=\ \ 1.54345+1.27752I$	$-3.38231-2.55549I$	0
$u=\ \ 1.342810+0.078875I$ $a=-0.187174-0.754241I$ $b=-0.913573+0.753421I$	$-1.97670-0.12270I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.342810 - 0.078875I$ $a = -0.187174 + 0.754241I$ $b = -0.913573 - 0.753421I$	$-1.97670 + 0.12270I$	0
$u = -0.314553 + 0.571005I$ $a = 0.34198 - 1.91552I$ $b = -0.730849 + 0.865353I$	$3.10558 + 3.61737I$	$5.02209 - 6.95770I$
$u = -0.314553 - 0.571005I$ $a = 0.34198 + 1.91552I$ $b = -0.730849 - 0.865353I$	$3.10558 - 3.61737I$	$5.02209 + 6.95770I$
$u = -1.374090 + 0.059413I$ $a = -1.25490 + 0.74710I$ $b = -1.094480 - 0.250638I$	$-1.94268 + 2.09451I$	0
$u = -1.374090 - 0.059413I$ $a = -1.25490 - 0.74710I$ $b = -1.094480 + 0.250638I$	$-1.94268 - 2.09451I$	0
$u = 0.132610 + 0.570783I$ $a = -0.50919 - 1.37405I$ $b = 0.68277 + 1.29422I$	$1.178210 + 0.222024I$	$4.09639 + 0.81351I$
$u = 0.132610 - 0.570783I$ $a = -0.50919 + 1.37405I$ $b = 0.68277 - 1.29422I$	$1.178210 - 0.222024I$	$4.09639 - 0.81351I$
$u = -1.40897 + 0.12756I$ $a = 0.309238 + 0.806431I$ $b = 0.720029 - 0.800960I$	$-5.23918 + 2.82523I$	0
$u = -1.40897 - 0.12756I$ $a = 0.309238 - 0.806431I$ $b = 0.720029 + 0.800960I$	$-5.23918 - 2.82523I$	0
$u = 1.38798 + 0.30000I$ $a = -0.362647 + 0.963676I$ $b = -0.89457 - 1.13107I$	$-1.14649 - 6.58052I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.38798 - 0.30000I$ $a = -0.362647 - 0.963676I$ $b = -0.89457 + 1.13107I$	$-1.14649 + 6.58052I$	0
$u = -1.40581 + 0.21716I$ $a = -0.0848306 - 0.0957051I$ $b = 0.831029 + 1.020710I$	$4.00655 + 2.36985I$	0
$u = -1.40581 - 0.21716I$ $a = -0.0848306 + 0.0957051I$ $b = 0.831029 - 1.020710I$	$4.00655 - 2.36985I$	0
$u = 1.42021 + 0.11685I$ $a = 0.53593 + 1.37207I$ $b = 0.376787 - 0.204202I$	$-1.80362 - 6.92361I$	0
$u = 1.42021 - 0.11685I$ $a = 0.53593 - 1.37207I$ $b = 0.376787 + 0.204202I$	$-1.80362 + 6.92361I$	0
$u = -1.43035 + 0.14032I$ $a = -0.765440 - 0.605974I$ $b = -1.78067 + 0.94085I$	$-4.46694 + 5.12991I$	0
$u = -1.43035 - 0.14032I$ $a = -0.765440 + 0.605974I$ $b = -1.78067 - 0.94085I$	$-4.46694 - 5.12991I$	0
$u = 1.42057 + 0.24111I$ $a = -0.320890 + 0.937987I$ $b = -0.443208 - 0.993210I$	$-0.88819 - 6.41567I$	0
$u = 1.42057 - 0.24111I$ $a = -0.320890 - 0.937987I$ $b = -0.443208 + 0.993210I$	$-0.88819 + 6.41567I$	0
$u = 0.532037 + 0.171780I$ $a = -1.25986 - 1.38703I$ $b = -0.221282 - 0.570042I$	$-0.60605 - 2.64565I$	$-4.49649 + 6.49734I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.532037 - 0.171780I$ $a = -1.25986 + 1.38703I$ $b = -0.221282 + 0.570042I$	$-0.60605 + 2.64565I$	$-4.49649 - 6.49734I$
$u = 1.43699 + 0.18185I$ $a = -0.743374 + 0.995991I$ $b = -1.05676 - 0.94158I$	$-2.54175 - 6.29202I$	0
$u = 1.43699 - 0.18185I$ $a = -0.743374 - 0.995991I$ $b = -1.05676 + 0.94158I$	$-2.54175 + 6.29202I$	0
$u = -1.33720 + 0.57739I$ $a = -0.039250 + 0.490500I$ $b = 0.809011 - 0.511517I$	$-1.03852 + 1.09123I$	0
$u = -1.33720 - 0.57739I$ $a = -0.039250 - 0.490500I$ $b = 0.809011 + 0.511517I$	$-1.03852 - 1.09123I$	0
$u = -0.529233 + 0.072478I$ $a = 0.601191 + 0.531110I$ $b = 1.134370 - 0.143375I$	$-2.45286 + 0.05284I$	$-5.63964 + 1.73847I$
$u = -0.529233 - 0.072478I$ $a = 0.601191 - 0.531110I$ $b = 1.134370 + 0.143375I$	$-2.45286 - 0.05284I$	$-5.63964 - 1.73847I$
$u = -1.49390 + 0.01527I$ $a = -0.608509 + 0.989132I$ $b = -0.391289 - 0.128041I$	$-7.22577 + 3.21947I$	0
$u = -1.49390 - 0.01527I$ $a = -0.608509 - 0.989132I$ $b = -0.391289 + 0.128041I$	$-7.22577 - 3.21947I$	0
$u = -0.495392$ $a = 1.86962$ $b = 1.12220$	-2.29548	-12.9840

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.50591 + 0.08560I$ $a = 0.680720 - 0.597516I$ $b = 1.259100 + 0.380183I$	$-9.29517 - 0.94784I$	0
$u = 1.50591 - 0.08560I$ $a = 0.680720 + 0.597516I$ $b = 1.259100 - 0.380183I$	$-9.29517 + 0.94784I$	0
$u = 1.50512 + 0.24468I$ $a = 0.672410 - 0.815869I$ $b = 1.45385 + 1.03810I$	$-6.12726 - 11.90180I$	0
$u = 1.50512 - 0.24468I$ $a = 0.672410 + 0.815869I$ $b = 1.45385 - 1.03810I$	$-6.12726 + 11.90180I$	0
$u = 0.220734 + 0.403612I$ $a = -0.435314 - 1.126120I$ $b = 0.252796 + 0.437167I$	$0.025892 - 0.911298I$	$0.62892 + 7.31065I$
$u = 0.220734 - 0.403612I$ $a = -0.435314 + 1.126120I$ $b = 0.252796 - 0.437167I$	$0.025892 + 0.911298I$	$0.62892 - 7.31065I$
$u = -1.53491 + 0.23090I$ $a = -0.425740 - 0.784087I$ $b = -1.156090 + 0.526124I$	$-10.40670 + 6.21904I$	0
$u = -1.53491 - 0.23090I$ $a = -0.425740 + 0.784087I$ $b = -1.156090 - 0.526124I$	$-10.40670 - 6.21904I$	0
$u = -1.46348 + 0.53879I$ $a = 0.245647 - 0.459594I$ $b = -0.520196 - 0.000046I$	$0.09944 + 3.14108I$	0
$u = -1.46348 - 0.53879I$ $a = 0.245647 + 0.459594I$ $b = -0.520196 + 0.000046I$	$0.09944 - 3.14108I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.52285 + 0.36735I$ $a = 0.286966 - 0.888749I$ $b = 1.063900 + 0.566426I$	$-4.37424 - 10.64490I$	0
$u = 1.52285 - 0.36735I$ $a = 0.286966 + 0.888749I$ $b = 1.063900 - 0.566426I$	$-4.37424 + 10.64490I$	0
$u = 1.56699$ $a = 1.16899$ $b = 1.19872$	-9.43280	0
$u = 0.246141 + 0.356204I$ $a = 0.22173 + 2.08454I$ $b = -1.24916 - 1.09515I$	$1.07143 - 3.25313I$	$2.48691 + 9.00005I$
$u = 0.246141 - 0.356204I$ $a = 0.22173 - 2.08454I$ $b = -1.24916 + 1.09515I$	$1.07143 + 3.25313I$	$2.48691 - 9.00005I$
$u = -1.54762 + 0.26412I$ $a = 0.857409 + 0.971079I$ $b = 1.084390 - 0.836561I$	$3.09097 + 9.12831I$	0
$u = -1.54762 - 0.26412I$ $a = 0.857409 - 0.971079I$ $b = 1.084390 + 0.836561I$	$3.09097 - 9.12831I$	0
$u = -1.53890 + 0.34716I$ $a = -0.644387 - 0.922484I$ $b = -1.31977 + 1.00529I$	$-0.0472 + 17.1279I$	0
$u = -1.53890 - 0.34716I$ $a = -0.644387 + 0.922484I$ $b = -1.31977 - 1.00529I$	$-0.0472 - 17.1279I$	0
$u = 1.62586 + 0.20972I$ $a = 0.182206 - 0.440937I$ $b = 0.451653 + 0.037173I$	$-6.11301 - 0.51432I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.62586 - 0.20972I$ $a = 0.182206 + 0.440937I$ $b = 0.451653 - 0.037173I$	$-6.11301 + 0.51432I$	0
$u = 0.356284$ $a = -2.91113$ $b = 1.21929$	10.5861	26.2890
$u = 1.64481$ $a = 0.865174$ $b = 0.368194$	-5.76238	0
$u = -1.67324$ $a = -1.44838$ $b = -1.08626$	-6.27557	0
$u = -0.179458 + 0.253158I$ $a = 4.28566 - 3.03405I$ $b = 0.442602 - 0.472115I$	$3.56599 + 5.45286I$	$-1.25190 - 10.82442I$
$u = -0.179458 - 0.253158I$ $a = 4.28566 + 3.03405I$ $b = 0.442602 + 0.472115I$	$3.56599 - 5.45286I$	$-1.25190 + 10.82442I$
$u = -0.044517 + 0.238637I$ $a = -2.58596 + 4.06517I$ $b = -0.839573 - 0.212992I$	$2.54998 - 1.15743I$	$1.31085 + 1.86464I$
$u = -0.044517 - 0.238637I$ $a = -2.58596 - 4.06517I$ $b = -0.839573 + 0.212992I$	$2.54998 + 1.15743I$	$1.31085 - 1.86464I$
$u = -2.09450$ $a = -0.0187236$ $b = -0.432020$	-3.71793	0

II.

$\boldsymbol{I_2^u = \langle u^{20}+u^{19}+\cdots+b+1,\ 11u^{20}+6u^{19}+\cdots+2a+23,\ u^{21}-14u^{19}+\cdots+u-1\rangle}$

(i) Arc colorings

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

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

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

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

$$a_3 = \begin{pmatrix} -\frac{11}{2}u^{20} - 3u^{19} + \cdots - \frac{23}{2}u - \frac{23}{2} \\ -u^{20} - u^{19} + \cdots - 2u - 1 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} -\frac{11}{2}u^{20} - 4u^{19} + \cdots - 9u - 10 \\ -\frac{1}{2}u^{17} + 6u^{15} + \cdots - u + \frac{1}{2} \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -\frac{13}{2}u^{20} - 4u^{19} + \cdots - \frac{27}{2}u - \frac{25}{2} \\ -u^{20} - u^{19} + \cdots - 2u - 1 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^{20} - \frac{3}{2}u^{19} + \cdots + \frac{5}{2}u^2 - \frac{5}{2}u \\ -4u^{20} - \frac{5}{2}u^{19} + \cdots - \frac{11}{2}u - 7 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} \frac{13}{2}u^{20} + 5u^{19} + \cdots + 14u + \frac{27}{2} \\ -u^{20} + u^{19} + \cdots - 8u - \frac{7}{2} \end{pmatrix}$$

$$a_5 = \begin{pmatrix} \frac{7}{2}u^{20} + \frac{9}{2}u^{19} + \cdots + u + 3 \\ -3u^{20} + \frac{1}{2}u^{19} + \cdots - \frac{31}{2}u - 9 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -\frac{1}{2}u^{20} + \frac{3}{2}u^{19} + \cdots - 9u - 3 \\ 4u^{20} + \frac{5}{2}u^{19} + \cdots + \frac{11}{2}u + \frac{13}{2} \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 48u^{20} + \frac{53}{2}u^{19} - 652u^{18} - 355u^{17} + \frac{7445}{2}u^{16} + 2041u^{15} - \frac{23209}{2}u^{14} - \frac{12835}{2}u^{13} + 21257u^{12} + \frac{23307}{2}u^{11} - \frac{44969}{2}u^{10} - \frac{23279}{2}u^9 + \frac{23709}{2}u^8 + \frac{9515}{2}u^7 - \frac{2437}{2}u^6 + 1171u^5 - 889u^4 - 1380u^3 - \frac{269}{2}u^2 + 109u + 95$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{21}+3u^{20}+\cdots-3u-1$
c_2	$u^{21}-u^{20}+\cdots+10u^2-1$
c_3, c_4	$u^{21}-12u^{19}+\cdots-u+1$
c_5	$u^{21}-3u^{20}+\cdots-3u+1$
c_6	$u^{21}+u^{20}+\cdots+3u-1$
c_7, c_8	$u^{21}-14u^{19}+\cdots+u-1$
c_9	$u^{21}-12u^{19}+\cdots-u-1$
c_{10}	$u^{21}-u^{20}+\cdots+3u+1$
c_{11}	$u^{21}-4u^{19}+\cdots+3u+1$
c_{12}	$u^{21}-14u^{19}+\cdots+u+1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_5	$y^{21} - 21y^{20} + \cdots + 21y - 1$
c_2	$y^{21} - 9y^{20} + \cdots + 20y - 1$
c_3, c_4, c_9	$y^{21} - 24y^{20} + \cdots + 9y - 1$
c_6, c_{10}	$y^{21} - 21y^{20} + \cdots + 15y - 1$
c_7, c_8, c_{12}	$y^{21} - 28y^{20} + \cdots + 9y - 1$
c_{11}	$y^{21} - 8y^{20} + \cdots + 5y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.881099+0.195365I$ $a=\ \ 1.43500+0.46001I$ $b=\ \ 0.846170-0.040778I$	$1.49501-0.09295I$	$-4.02271-0.89982I$
$u=-0.881099-0.195365I$ $a=\ \ 1.43500-0.46001I$ $b=\ \ 0.846170+0.040778I$	$1.49501+0.09295I$	$-4.02271+0.89982I$
$u=\ \ 1.26209$ $a=-1.13394$ $b=-1.94619$	7.53887	8.47890
$u=\ \ 1.257190+0.177710I$ $a=-0.119622+0.372206I$ $b=-0.994792-0.741082I$	$-4.09060-0.90910I$	$-8.18162+0.25711I$
$u=\ \ 1.257190-0.177710I$ $a=-0.119622-0.372206I$ $b=-0.994792+0.741082I$	$-4.09060+0.90910I$	$-8.18162-0.25711I$
$u=-1.323230+0.110086I$ $a=\ \ 0.567557+0.767122I$ $b=\ \ 1.39924-1.32178I$	$-2.79185+3.86713I$	$-1.43690-4.63715I$
$u=-1.323230-0.110086I$ $a=\ \ 0.567557-0.767122I$ $b=\ \ 1.39924+1.32178I$	$-2.79185-3.86713I$	$-1.43690+4.63715I$
$u=-1.283850+0.429554I$ $a=-0.363241+0.416469I$ $b=\ \ 0.421606-0.430118I$	$0.68309+3.44414I$	$2.65757-5.08852I$
$u=-1.283850-0.429554I$ $a=-0.363241-0.416469I$ $b=\ \ 0.421606+0.430118I$	$0.68309-3.44414I$	$2.65757+5.08852I$
$u=\ \ 1.375930+0.201231I$ $a=-0.242144+1.260580I$ $b=-0.494720-1.153360I$	$-0.31421-7.51279I$	$2.51674+9.19321I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.375930 - 0.201231I$ $a = -0.242144 - 1.260580I$ $b = -0.494720 + 1.153360I$	$-0.31421 + 7.51279I$	$2.51674 - 9.19321I$
$u = 0.104336 + 0.589212I$ $a = 1.92730 - 0.17150I$ $b = -0.161347 + 0.695868I$	$4.07643 + 4.88190I$	$5.40318 - 3.69735I$
$u = 0.104336 - 0.589212I$ $a = 1.92730 + 0.17150I$ $b = -0.161347 - 0.695868I$	$4.07643 - 4.88190I$	$5.40318 + 3.69735I$
$u = 0.467261$ $a = 2.13481$ $b = -1.20120$	10.4200	-22.1910
$u = -1.57234$ $a = -1.11050$ $b = -1.34671$	-9.00212	4.81910
$u = 0.416567$ $a = -1.93080$ $b = -1.31432$	-1.96719	13.2570
$u = -0.225246 + 0.324822I$ $a = -1.93832 + 0.00613I$ $b = 0.769744 + 0.956939I$	$1.01492 - 2.41280I$	$1.186685 + 0.269194I$
$u = -0.225246 - 0.324822I$ $a = -1.93832 - 0.00613I$ $b = 0.769744 - 0.956939I$	$1.01492 + 2.41280I$	$1.186685 - 0.269194I$
$u = 1.63120$ $a = 1.55820$ $b = 0.927719$	-7.02740	-9.07960
$u = 1.73739$ $a = 0.211044$ $b = 0.565115$	-6.45731	-15.2050

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.99023$		
$a=-0.261891$	-3.52004	15.6760
$b=-0.256225$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{21}+3u^{20}+\cdots-3u-1)(u^{99}-2u^{98}+\cdots-168u+49)$
c_2	$(u^{21}-u^{20}+\cdots+10u^2-1)(u^{99}-2u^{98}+\cdots+163u+17)$
c_3, c_4	$(u^{21}-12u^{19}+\cdots-u+1)(u^{99}-u^{98}+\cdots-634u-23)$
c_5	$(u^{21}-3u^{20}+\cdots-3u+1)(u^{99}-2u^{98}+\cdots-168u+49)$
c_6	$(u^{21}+u^{20}+\cdots+3u-1)(u^{99}-36u^{97}+\cdots+52u-7)$
c_7, c_8	$(u^{21}-14u^{19}+\cdots+u-1)(u^{99}-3u^{98}+\cdots+74u-19)$
c_9	$(u^{21}-12u^{19}+\cdots-u-1)(u^{99}-u^{98}+\cdots-634u-23)$
c_{10}	$(u^{21}-u^{20}+\cdots+3u+1)(u^{99}-36u^{97}+\cdots+52u-7)$
c_{11}	$(u^{21}-4u^{19}+\cdots+3u+1)(u^{99}-5u^{98}+\cdots+465u^2-1)$
c_{12}	$(u^{21}-14u^{19}+\cdots+u+1)(u^{99}-3u^{98}+\cdots+74u-19)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_5	$(y^{21} - 21y^{20} + \cdots + 21y - 1)(y^{99} - 60y^{98} + \cdots + 121030y - 2401)$
c_2	$(y^{21} - 9y^{20} + \cdots + 20y - 1)(y^{99} - 20y^{98} + \cdots + 25889y - 289)$
c_3, c_4, c_9	$(y^{21} - 24y^{20} + \cdots + 9y - 1)(y^{99} - 95y^{98} + \cdots + 306322y - 529)$
c_6, c_{10}	$(y^{21} - 21y^{20} + \cdots + 15y - 1)(y^{99} - 72y^{98} + \cdots + 660y - 49)$
c_7, c_8, c_{12}	$(y^{21} - 28y^{20} + \cdots + 9y - 1)(y^{99} - 103y^{98} + \cdots - 6038y - 361)$
c_{11}	$(y^{21} - 8y^{20} + \cdots + 5y - 1)(y^{99} - 7y^{98} + \cdots + 930y - 1)$