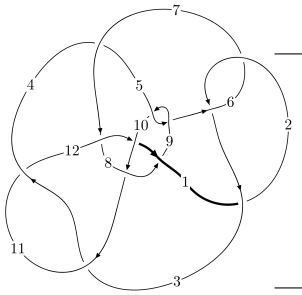
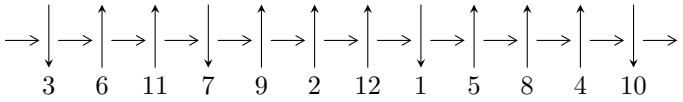
$12a_{0467}$ $(K12a_{0467})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 2.43654 \times 10^{731} u^{186} + 4.54915 \times 10^{731} u^{185} + \cdots + 3.47272 \times 10^{730} b - 6.08362 \times 10^{734}, \\ & 1.83544 \times 10^{733} u^{186} + 6.31204 \times 10^{733} u^{185} + \cdots + 1.39951 \times 10^{733} a + 1.20246 \times 10^{737}, \\ & u^{187} + 3u^{186} + \cdots + 10920u + 5239 \rangle \\ I_2^u = \langle & -2.84748 \times 10^{20} u^{51} + 3.83075 \times 10^{20} u^{50} + \cdots + 1.55518 \times 10^{19} b - 6.54423 \times 10^{19}, \\ & -2.20974 \times 10^{18} u^{51} + 1.43753 \times 10^{19} u^{50} + \cdots + 8.18517 \times 10^{17} a + 2.27369 \times 10^{19}, \ u^{52} - 2u^{51} + \cdots + 2u + \end{aligned}$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 239 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. $\boldsymbol{I_1^u = \langle 2.44 \times 10^{731} u^{186} + 4.55 \times 10^{731} u^{185} + \cdots + 3.47 \times 10^{730} b - 6.08 \times 10^{734},\ 1.84 \times 10^{733} u^{186} + 6.31 \times 10^{733} u^{185} + \cdots + 1.40 \times 10^{733} a + 1.20 \times 10^{737},\ u^{187} + 3u^{186} + \cdots + 10920u + 5239 \rangle}$

(i) Arc colorings

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

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

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

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

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

$$a_9 = \begin{pmatrix} -1.31149u^{186} - 4.51019u^{185} + \cdots - 19216.4u - 8592.00 \\ -7.01622u^{186} - 13.0997u^{185} + \cdots - 17093.4u + 17518.3 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -4.05296u^{186} - 8.70148u^{185} + \cdots - 20947.1u + 2815.98 \\ 4.55158u^{186} + 18.8011u^{185} + \cdots + 87737.8u + 46534.4 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 3.28956u^{186} + 13.0121u^{185} + \cdots + 60174.6u + 31327.3 \\ 2.37109u^{186} + 6.69340u^{185} + \cdots + 24665.2u + 8314.07 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -14.7745u^{186} - 38.3820u^{185} + \cdots - 120348.u - 25763.8 \\ 1.85301u^{186} + 5.37884u^{185} + \cdots + 17379.0u + 4939.63 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -2.56385u^{186} - 12.6576u^{185} + \cdots - 66579.2u - 39277.1 \\ -0.572985u^{186} + 1.16346u^{185} + \cdots + 15839.8u + 13975.7 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 24.0575u^{186} + 89.6144u^{185} + \cdots + 385976.u + 191331. \\ -2.77086u^{186} - 2.77145u^{185} + \cdots + 10609.9u + 20101.8 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -9.95948u^{186} - 35.4824u^{185} + \cdots - 148583.u - 72494.9 \\ -3.26650u^{186} - 9.27568u^{185} + \cdots - 30007.3u - 9369.12 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 37.8564u^{186} + 98.0987u^{185} + \cdots + 289617.u + 60810.4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{187} + 91u^{186} + \cdots - 674755484u - 27447121$
c_2, c_6	$u^{187} - 3u^{186} + \cdots + 10920u - 5239$
c_3, c_{11}	$u^{187} + u^{186} + \cdots + 88574u - 18569$
c_4	$u^{187} - 9u^{186} + \cdots + 103686897391u - 29441432969$
c_5, c_9	$u^{187} + 54u^{185} + \cdots - 82696u - 12769$
c_7	$u^{187} - 3u^{186} + \cdots + 26048247u - 2479855$
c_8	$u^{187} + 3u^{186} + \cdots - 1136700959u - 173953039$
c_{10}	$u^{187} + 13u^{186} + \cdots + 29u + 1$
c_{12}	$u^{187} - 15u^{186} + \cdots + 1290u - 59$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{187} + 31y^{186} + \cdots - 59316051338052392y - 7533444511886 41$
c_2, c_6	$y^{187} + 91y^{186} + \cdots - 674755484y - 27447121$
c_3, c_{11}	$y^{187} - 115y^{186} + \cdots + 15824267086y - 344807761$
c_4	$y^{187} + 33y^{186} + \cdots - 1.86 \times 10^{22}y - 8.67 \times 10^{20}$
c_5, c_9	$y^{187} + 108y^{186} + \cdots - 13757691970y - 163047361$
c_7	$y^{187} - 27y^{186} + \cdots + 413324628737959y - 6149680821025$
c_8	$y^{187} - 19y^{186} + \cdots + 160487672414999 3791y - 30259659777335521$
c_{10}	$y^{187} - 27y^{186} + \cdots - 175y - 1$
c_{12}	$y^{187} - 19y^{186} + \cdots - 127730y - 3481$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.861550+0.516101I$ $a=\ \ 0.142067+0.907004I$ $b=\ \ 0.514385-0.385927I$	$6.05061-5.19198I$	0
$u=-0.861550-0.516101I$ $a=\ \ 0.142067-0.907004I$ $b=\ \ 0.514385+0.385927I$	$6.05061+5.19198I$	0
$u=-0.263377+0.950076I$ $a=-0.035684-1.105640I$ $b=-1.225960+0.421383I$	$-1.97781+1.65161I$	0
$u=-0.263377-0.950076I$ $a=-0.035684+1.105640I$ $b=-1.225960-0.421383I$	$-1.97781-1.65161I$	0
$u=\ \ 0.654179+0.776722I$ $a=-1.052210+0.586150I$ $b=-1.57632-0.49206I$	$6.92550+3.10741I$	0
$u=\ \ 0.654179-0.776722I$ $a=-1.052210-0.586150I$ $b=-1.57632+0.49206I$	$6.92550-3.10741I$	0
$u=\ \ 0.892745+0.414357I$ $a=-0.060656+1.389870I$ $b=-1.131370+0.496676I$	$-0.94879-8.91470I$	0
$u=\ \ 0.892745-0.414357I$ $a=-0.060656-1.389870I$ $b=-1.131370-0.496676I$	$-0.94879+8.91470I$	0
$u=\ \ 0.365647+0.909516I$ $a=-1.66507-0.80121I$ $b=-0.638824-0.950245I$	$-7.65672+1.50546I$	0
$u=\ \ 0.365647-0.909516I$ $a=-1.66507+0.80121I$ $b=-0.638824+0.950245I$	$-7.65672-1.50546I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.383049+0.902038I$ $a=-1.23669+0.76887I$ $b=-1.378590-0.213823I$	$-4.64372+1.53149I$	0
$u=-0.383049-0.902038I$ $a=-1.23669-0.76887I$ $b=-1.378590+0.213823I$	$-4.64372-1.53149I$	0
$u=-0.483060+0.903201I$ $a=0.637196-1.075370I$ $b=-0.610904+0.561245I$	$1.64255-2.34304I$	0
$u=-0.483060-0.903201I$ $a=0.637196+1.075370I$ $b=-0.610904-0.561245I$	$1.64255+2.34304I$	0
$u=-0.486007+0.841078I$ $a=-0.932998-0.244208I$ $b=-0.219475+1.386250I$	$1.62342-2.02585I$	0
$u=-0.486007-0.841078I$ $a=-0.932998+0.244208I$ $b=-0.219475-1.386250I$	$1.62342+2.02585I$	0
$u=-0.354896+0.902637I$ $a=-1.324830+0.476356I$ $b=-0.854385-0.475461I$	$-4.59487-4.59332I$	0
$u=-0.354896-0.902637I$ $a=-1.324830-0.476356I$ $b=-0.854385+0.475461I$	$-4.59487+4.59332I$	0
$u=-0.601809+0.756023I$ $a=-0.859548-0.012076I$ $b=-0.277283+1.178990I$	$1.53854-2.07623I$	0
$u=-0.601809-0.756023I$ $a=-0.859548+0.012076I$ $b=-0.277283-1.178990I$	$1.53854+2.07623I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.322810+0.908484I$ $a=-0.811518+0.264768I$ $b=-2.74076+2.32475I$	$0.77306+4.81618I$	0
$u=-0.322810-0.908484I$ $a=-0.811518-0.264768I$ $b=-2.74076-2.32475I$	$0.77306-4.81618I$	0
$u=0.807348+0.649598I$ $a=-0.383854+0.287226I$ $b=-0.780787+0.251519I$	$5.07799-2.15241I$	0
$u=0.807348-0.649598I$ $a=-0.383854-0.287226I$ $b=-0.780787-0.251519I$	$5.07799+2.15241I$	0
$u=-0.706232+0.652945I$ $a=0.406387-1.069150I$ $b=-0.657696+0.934744I$	$3.97434+4.95811I$	0
$u=-0.706232-0.652945I$ $a=0.406387+1.069150I$ $b=-0.657696-0.934744I$	$3.97434-4.95811I$	0
$u=0.410926+0.957486I$ $a=0.781272+0.220605I$ $b=2.27546+1.18814I$	$-1.252470-0.243551I$	0
$u=0.410926-0.957486I$ $a=0.781272-0.220605I$ $b=2.27546-1.18814I$	$-1.252470+0.243551I$	0
$u=0.930335+0.226785I$ $a=0.213537-1.199240I$ $b=1.200640-0.292343I$	$-0.72136-3.42604I$	0
$u=0.930335-0.226785I$ $a=0.213537+1.199240I$ $b=1.200640+0.292343I$	$-0.72136+3.42604I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.576396 + 0.870873I$ $a = 0.572472 - 1.262080I$ $b = 1.46296 + 0.38943I$	$6.65285 + 1.72461I$	0
$u = 0.576396 - 0.870873I$ $a = 0.572472 + 1.262080I$ $b = 1.46296 - 0.38943I$	$6.65285 - 1.72461I$	0
$u = -0.875281 + 0.571181I$ $a = -0.107698 + 1.261630I$ $b = 0.873919 + 0.561037I$	$4.52151 + 3.02518I$	0
$u = -0.875281 - 0.571181I$ $a = -0.107698 - 1.261630I$ $b = 0.873919 - 0.561037I$	$4.52151 - 3.02518I$	0
$u = -0.267799 + 1.012970I$ $a = -0.225743 + 0.035973I$ $b = 2.06299 - 0.55431I$	$0.62311 - 7.18275I$	0
$u = -0.267799 - 1.012970I$ $a = -0.225743 - 0.035973I$ $b = 2.06299 + 0.55431I$	$0.62311 + 7.18275I$	0
$u = -0.985234 + 0.381373I$ $a = 0.143208 + 1.318640I$ $b = 1.135930 + 0.378380I$	$2.9983 + 14.9860I$	0
$u = -0.985234 - 0.381373I$ $a = 0.143208 - 1.318640I$ $b = 1.135930 - 0.378380I$	$2.9983 - 14.9860I$	0
$u = 0.816707 + 0.470853I$ $a = -1.177800 + 0.279349I$ $b = -1.43356 - 0.44872I$	$5.91099 - 8.81465I$	0
$u = 0.816707 - 0.470853I$ $a = -1.177800 - 0.279349I$ $b = -1.43356 + 0.44872I$	$5.91099 + 8.81465I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.854664 + 0.629543I$ $a = 0.700535 + 0.075776I$ $b = 1.198420 + 0.595148I$	$2.28908 - 0.83488I$	0
$u = 0.854664 - 0.629543I$ $a = 0.700535 - 0.075776I$ $b = 1.198420 - 0.595148I$	$2.28908 + 0.83488I$	0
$u = 0.096127 + 0.933400I$ $a = 0.368117 + 0.578841I$ $b = -0.103130 - 0.456037I$	$-2.65764 - 0.84983I$	0
$u = 0.096127 - 0.933400I$ $a = 0.368117 - 0.578841I$ $b = -0.103130 + 0.456037I$	$-2.65764 + 0.84983I$	0
$u = -0.463576 + 0.812247I$ $a = 1.319570 - 0.218322I$ $b = 2.09543 - 0.77067I$	$1.96357 - 1.55506I$	0
$u = -0.463576 - 0.812247I$ $a = 1.319570 + 0.218322I$ $b = 2.09543 + 0.77067I$	$1.96357 + 1.55506I$	0
$u = 0.039536 + 1.065170I$ $a = -0.133416 - 0.701835I$ $b = 1.288480 + 0.394065I$	$0.35245 - 7.06268I$	0
$u = 0.039536 - 1.065170I$ $a = -0.133416 + 0.701835I$ $b = 1.288480 - 0.394065I$	$0.35245 + 7.06268I$	0
$u = 0.351613 + 0.848003I$ $a = 0.279265 + 0.497591I$ $b = -1.28421 - 1.39014I$	$-0.75976 + 3.38136I$	0
$u = 0.351613 - 0.848003I$ $a = 0.279265 - 0.497591I$ $b = -1.28421 + 1.39014I$	$-0.75976 - 3.38136I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.929495+0.564188I$ $a=\ \ 0.630312-0.565673I$ $b=-0.038920-0.772054I$	$0.17337-4.54929I$	0
$u=-0.929495-0.564188I$ $a=\ \ 0.630312+0.565673I$ $b=-0.038920+0.772054I$	$0.17337+4.54929I$	0
$u=-0.627922+0.656186I$ $a=\ \ 0.655464-0.970952I$ $b=-1.34384-0.70163I$	$-2.21818+1.76933I$	0
$u=-0.627922-0.656186I$ $a=\ \ 0.655464+0.970952I$ $b=-1.34384+0.70163I$	$-2.21818-1.76933I$	0
$u=\ \ 0.491954+0.978355I$ $a=-0.54888+1.50482I$ $b=-2.05942+0.11880I$	$5.62697+2.73035I$	0
$u=\ \ 0.491954-0.978355I$ $a=-0.54888-1.50482I$ $b=-2.05942-0.11880I$	$5.62697-2.73035I$	0
$u=-0.659156+0.876889I$ $a=-0.118801+0.487615I$ $b=\ \ 0.810351+0.589582I$	$1.27382-2.88649I$	0
$u=-0.659156-0.876889I$ $a=-0.118801-0.487615I$ $b=\ \ 0.810351-0.589582I$	$1.27382+2.88649I$	0
$u=-0.230082+1.076090I$ $a=-1.100730+0.577370I$ $b=-1.14595+0.92366I$	$-1.25591+3.54603I$	0
$u=-0.230082-1.076090I$ $a=-1.100730-0.577370I$ $b=-1.14595-0.92366I$	$-1.25591-3.54603I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.413614+1.024810I$ $a=-1.262990+0.047223I$ $b=-1.14448+2.01836I$	$-3.07102+1.87073I$	0
$u=-0.413614-1.024810I$ $a=-1.262990-0.047223I$ $b=-1.14448-2.01836I$	$-3.07102-1.87073I$	0
$u=-0.474148+1.009760I$ $a=\ \ 1.28991-0.83826I$ $b=\ \ 0.564305-0.781989I$	$-2.72598-8.07713I$	0
$u=-0.474148-1.009760I$ $a=\ \ 1.28991+0.83826I$ $b=\ \ 0.564305+0.781989I$	$-2.72598+8.07713I$	0
$u=-1.081540+0.288311I$ $a=\ \ 0.087591+1.031650I$ $b=\ \ 0.427487+0.358750I$	$2.39318+5.66478I$	0
$u=-1.081540-0.288311I$ $a=\ \ 0.087591-1.031650I$ $b=\ \ 0.427487-0.358750I$	$2.39318-5.66478I$	0
$u=-0.307525+1.078380I$ $a=-0.145145+0.595340I$ $b=\ \ 0.678656-0.286491I$	$-1.87969-3.25804I$	0
$u=-0.307525-1.078380I$ $a=-0.145145-0.595340I$ $b=\ \ 0.678656+0.286491I$	$-1.87969+3.25804I$	0
$u=\ \ 0.828340+0.771012I$ $a=\ \ 0.507944+0.223714I$ $b=\ \ 0.064107+1.405010I$	$5.50564-1.73545I$	0
$u=\ \ 0.828340-0.771012I$ $a=\ \ 0.507944-0.223714I$ $b=\ \ 0.064107-1.405010I$	$5.50564+1.73545I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.490121 + 1.021210I$ $a = -0.965653 - 0.110062I$ $b = -2.21396 - 0.95263I$	$-0.53250 + 6.08416I$	0
$u = 0.490121 - 1.021210I$ $a = -0.965653 + 0.110062I$ $b = -2.21396 + 0.95263I$	$-0.53250 - 6.08416I$	0
$u = -0.576974 + 0.977359I$ $a = 1.037050 - 0.226722I$ $b = 1.10681 - 2.46184I$	$-3.19166 - 6.51427I$	0
$u = -0.576974 - 0.977359I$ $a = 1.037050 + 0.226722I$ $b = 1.10681 + 2.46184I$	$-3.19166 + 6.51427I$	0
$u = -0.393492 + 1.066080I$ $a = 0.967804 + 0.396165I$ $b = 1.38888 - 1.37330I$	$-2.99818 - 3.64931I$	0
$u = -0.393492 - 1.066080I$ $a = 0.967804 - 0.396165I$ $b = 1.38888 + 1.37330I$	$-2.99818 + 3.64931I$	0
$u = 0.710074 + 0.486923I$ $a = 1.327450 + 0.354349I$ $b = 0.633943 + 0.648059I$	$3.62209 + 3.51762I$	0
$u = 0.710074 - 0.486923I$ $a = 1.327450 - 0.354349I$ $b = 0.633943 - 0.648059I$	$3.62209 - 3.51762I$	0
$u = 0.283540 + 0.808746I$ $a = -0.758782 - 1.052090I$ $b = 0.857999 + 1.000250I$	$0.91647 - 3.01725I$	0
$u = 0.283540 - 0.808746I$ $a = -0.758782 + 1.052090I$ $b = 0.857999 - 1.000250I$	$0.91647 + 3.01725I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.393421+1.077180I$ $a=-0.100279+0.753743I$ $b=\ \ 0.325966+0.389991I$	$1.12401-0.96811I$	0
$u=-0.393421-1.077180I$ $a=-0.100279-0.753743I$ $b=\ \ 0.325966-0.389991I$	$1.12401+0.96811I$	0
$u=\ \ 0.337747+1.096680I$ $a=\ \ 1.093620+0.604897I$ $b=\ \ 1.356040-0.078259I$	$-4.63594-2.77782I$	0
$u=\ \ 0.337747-1.096680I$ $a=\ \ 1.093620-0.604897I$ $b=\ \ 1.356040+0.078259I$	$-4.63594+2.77782I$	0
$u=-1.048740+0.469338I$ $a=-0.022663-0.992736I$ $b=-1.073200-0.178154I$	$0.70996+5.03703I$	0
$u=-1.048740-0.469338I$ $a=-0.022663+0.992736I$ $b=-1.073200+0.178154I$	$0.70996-5.03703I$	0
$u=\ \ 0.525444+0.668836I$ $a=\ \ 1.31131-1.12315I$ $b=\ \ 1.39755+0.85221I$	$6.59064+1.37425I$	0
$u=\ \ 0.525444-0.668836I$ $a=\ \ 1.31131+1.12315I$ $b=\ \ 1.39755-0.85221I$	$6.59064-1.37425I$	0
$u=\ \ 0.156263+1.153110I$ $a=-1.164450-0.143907I$ $b=-0.883223-0.475989I$	$-8.36973+2.61779I$	0
$u=\ \ 0.156263-1.153110I$ $a=-1.164450+0.143907I$ $b=-0.883223+0.475989I$	$-8.36973-2.61779I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.733087+0.396038I$ $a=-0.00288-1.79464I$ $b=-0.924521-0.272246I$	$3.16484+5.80153I$	0
$u=-0.733087-0.396038I$ $a=-0.00288+1.79464I$ $b=-0.924521+0.272246I$	$3.16484-5.80153I$	0
$u=0.368367+1.111890I$ $a=-0.927694+0.135069I$ $b=-2.08113-0.74143I$	$-0.40866+5.66623I$	0
$u=0.368367-1.111890I$ $a=-0.927694-0.135069I$ $b=-2.08113+0.74143I$	$-0.40866-5.66623I$	0
$u=-0.609733+1.003240I$ $a=0.939887-0.279303I$ $b=2.49468-0.87663I$	$2.87815-10.02700I$	0
$u=-0.609733-1.003240I$ $a=0.939887+0.279303I$ $b=2.49468+0.87663I$	$2.87815+10.02700I$	0
$u=-0.633792+0.522514I$ $a=1.313030+0.420722I$ $b=1.46277-0.55874I$	$1.67911+2.89245I$	0
$u=-0.633792-0.522514I$ $a=1.313030-0.420722I$ $b=1.46277+0.55874I$	$1.67911-2.89245I$	0
$u=-0.520859+1.062390I$ $a=0.146477+0.694148I$ $b=1.182130-0.337675I$	$-0.65223-3.64853I$	0
$u=-0.520859-1.062390I$ $a=0.146477-0.694148I$ $b=1.182130+0.337675I$	$-0.65223+3.64853I$	0

	Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=$	$0.536551+1.056200I$		
$a=$	$1.200160+0.144197I$	$-5.86245+4.29604I$	0
$b=$	$1.18378+1.71852I$		
$u=$	$0.536551-1.056200I$		
$a=$	$1.200160-0.144197I$	$-5.86245-4.29604I$	0
$b=$	$1.18378-1.71852I$		
$u=$	$-0.574542+1.036570I$		
$a=$	$-0.306217-1.084490I$	$0.15754-7.66408I$	0
$b=$	$-1.45968+0.29148I$		
$u=$	$-0.574542-1.036570I$		
$a=$	$-0.306217+1.084490I$	$0.15754+7.66408I$	0
$b=$	$-1.45968-0.29148I$		
$u=$	$0.780572+0.232223I$		
$a=$	$0.24793-1.46436I$	$-0.74558-3.59053I$	0
$b=$	$1.089580-0.333327I$		
$u=$	$0.780572-0.232223I$		
$a=$	$0.24793+1.46436I$	$-0.74558+3.59053I$	0
$b=$	$1.089580+0.333327I$		
$u=$	$0.307765+1.146070I$		
$a=$	$0.924390+0.570392I$	$-4.91904-0.28254I$	0
$b=$	$0.577550+0.250216I$		
$u=$	$0.307765-1.146070I$		
$a=$	$0.924390-0.570392I$	$-4.91904+0.28254I$	0
$b=$	$0.577550-0.250216I$		
$u=$	$-0.413106+1.130500I$		
$a=$	$-0.719167+0.643583I$	$-2.75178-3.80296I$	0
$b=$	$0.164077+0.098940I$		
$u=$	$-0.413106-1.130500I$		
$a=$	$-0.719167-0.643583I$	$-2.75178+3.80296I$	0
$b=$	$0.164077-0.098940I$		

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.655191 + 1.015080I$ $a = 0.516981 - 0.432449I$ $b = 0.619829 + 0.870542I$	$3.92370 + 7.63537I$	0
$u = 0.655191 - 1.015080I$ $a = 0.516981 + 0.432449I$ $b = 0.619829 - 0.870542I$	$3.92370 - 7.63537I$	0
$u = 0.534577 + 1.089840I$ $a = -1.088380 - 0.160555I$ $b = -1.93389 - 2.31269I$	$-3.28618 + 10.02500I$	0
$u = 0.534577 - 1.089840I$ $a = -1.088380 + 0.160555I$ $b = -1.93389 + 2.31269I$	$-3.28618 - 10.02500I$	0
$u = 0.605785 + 1.053590I$ $a = 0.117755 + 0.834581I$ $b = -0.430403 + 0.293223I$	$1.95294 + 1.54237I$	0
$u = 0.605785 - 1.053590I$ $a = 0.117755 - 0.834581I$ $b = -0.430403 - 0.293223I$	$1.95294 - 1.54237I$	0
$u = -0.332084 + 0.703340I$ $a = -0.491557 + 0.554489I$ $b = 0.10753 + 1.56002I$	$1.83917 - 1.33529I$	0
$u = -0.332084 - 0.703340I$ $a = -0.491557 - 0.554489I$ $b = 0.10753 - 1.56002I$	$1.83917 + 1.33529I$	0
$u = 0.754581 + 0.967956I$ $a = 0.267764 + 0.385394I$ $b = -0.984390 + 0.845468I$	$4.89169 + 7.65008I$	0
$u = 0.754581 - 0.967956I$ $a = 0.267764 - 0.385394I$ $b = -0.984390 - 0.845468I$	$4.89169 - 7.65008I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.664929 + 1.043370I$ $a = -0.117531 + 0.655172I$ $b = -1.006860 - 0.499664I$	$0.97457 + 6.46946I$	0
$u = 0.664929 - 1.043370I$ $a = -0.117531 - 0.655172I$ $b = -1.006860 + 0.499664I$	$0.97457 - 6.46946I$	0
$u = -0.742580 + 0.150085I$ $a = -0.852100 + 0.977461I$ $b = -1.034530 + 0.775850I$	$0.359898 - 0.372471I$	0
$u = -0.742580 - 0.150085I$ $a = -0.852100 - 0.977461I$ $b = -1.034530 - 0.775850I$	$0.359898 + 0.372471I$	0
$u = -0.577273 + 1.101900I$ $a = 1.311420 - 0.044952I$ $b = 1.97578 - 1.57566I$	$1.08610 - 10.80320I$	0
$u = -0.577273 - 1.101900I$ $a = 1.311420 + 0.044952I$ $b = 1.97578 + 1.57566I$	$1.08610 + 10.80320I$	0
$u = 0.516058 + 1.134580I$ $a = -0.700546 - 0.178020I$ $b = -1.57462 - 1.53777I$	$-2.04079 + 6.23971I$	0
$u = 0.516058 - 1.134580I$ $a = -0.700546 + 0.178020I$ $b = -1.57462 + 1.53777I$	$-2.04079 - 6.23971I$	0
$u = 0.101078 + 1.245270I$ $a = -0.996624 - 0.391193I$ $b = -0.672668 - 0.097315I$	$-6.82399 - 6.11041I$	0
$u = 0.101078 - 1.245270I$ $a = -0.996624 + 0.391193I$ $b = -0.672668 + 0.097315I$	$-6.82399 + 6.11041I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.724362+0.182409I$ $a=-0.956784-0.982863I$ $b=-0.774611+0.204042I$	$4.63015+2.38018I$	0
$u=-0.724362-0.182409I$ $a=-0.956784+0.982863I$ $b=-0.774611-0.204042I$	$4.63015-2.38018I$	0
$u=-0.312378+0.673623I$ $a=\ \ 1.93875-0.99362I$ $b=\ \ 0.759609-0.734492I$	$-1.42463+4.48373I$	0
$u=-0.312378-0.673623I$ $a=\ \ 1.93875+0.99362I$ $b=\ \ 0.759609+0.734492I$	$-1.42463-4.48373I$	0
$u=\ \ 0.499027+1.154890I$ $a=-1.039790+0.128578I$ $b=-1.68401-1.68704I$	$-3.59971+8.37704I$	0
$u=\ \ 0.499027-1.154890I$ $a=-1.039790-0.128578I$ $b=-1.68401+1.68704I$	$-3.59971-8.37704I$	0
$u=-0.678195+1.060990I$ $a=-1.190510+0.118281I$ $b=-1.40244+1.59678I$	$3.01436-8.75585I$	0
$u=-0.678195-1.060990I$ $a=-1.190510-0.118281I$ $b=-1.40244-1.59678I$	$3.01436+8.75585I$	0
$u=\ \ 0.965652+0.813992I$ $a=-0.700376-0.269160I$ $b=-0.634765-0.881911I$	$5.73783+9.42214I$	0
$u=\ \ 0.965652-0.813992I$ $a=-0.700376+0.269160I$ $b=-0.634765+0.881911I$	$5.73783-9.42214I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.657886 + 0.329807I$ $a = 0.39192 + 1.56313I$ $b = -0.614276 + 0.739195I$	$-3.85303 + 0.26850I$	0
$u = 0.657886 - 0.329807I$ $a = 0.39192 - 1.56313I$ $b = -0.614276 - 0.739195I$	$-3.85303 - 0.26850I$	0
$u = 0.629564 + 1.096550I$ $a = 0.336105 - 0.953209I$ $b = 1.42775 + 0.27637I$	$4.0293 + 14.2262I$	0
$u = 0.629564 - 1.096550I$ $a = 0.336105 + 0.953209I$ $b = 1.42775 - 0.27637I$	$4.0293 - 14.2262I$	0
$u = 0.299959 + 1.228730I$ $a = 0.899836 + 0.086068I$ $b = 1.139770 - 0.173143I$	$-3.30153 + 2.08347I$	0
$u = 0.299959 - 1.228730I$ $a = 0.899836 - 0.086068I$ $b = 1.139770 + 0.173143I$	$-3.30153 - 2.08347I$	0
$u = -0.711973 + 1.072000I$ $a = -0.784831 + 0.130375I$ $b = -1.49807 + 0.74067I$	$4.40131 - 0.61049I$	0
$u = -0.711973 - 1.072000I$ $a = -0.784831 - 0.130375I$ $b = -1.49807 - 0.74067I$	$4.40131 + 0.61049I$	0
$u = -0.556905 + 0.444112I$ $a = -0.959808 - 0.052686I$ $b = -0.797610 + 0.758882I$	$1.177280 - 0.714210I$	0
$u = -0.556905 - 0.444112I$ $a = -0.959808 + 0.052686I$ $b = -0.797610 - 0.758882I$	$1.177280 + 0.714210I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.610244+1.140650I$ $a=\ 0.563710-0.316133I$ $b=\ 0.565158-1.292530I$	$-1.86550-1.29308I$	0
$u=-0.610244-1.140650I$ $a=\ 0.563710+0.316133I$ $b=\ 0.565158+1.292530I$	$-1.86550+1.29308I$	0
$u=-0.499902+1.200200I$ $a=\ 0.712699+0.259713I$ $b=\ 1.73945-0.60492I$	$1.64048-7.04317I$	0
$u=-0.499902-1.200200I$ $a=\ 0.712699-0.259713I$ $b=\ 1.73945+0.60492I$	$1.64048+7.04317I$	0
$u=\ 0.947791+0.895230I$ $a=-0.194596-0.483891I$ $b=\ 0.307884-0.239880I$	$5.48854-2.63483I$	0
$u=\ 0.947791-0.895230I$ $a=-0.194596+0.483891I$ $b=\ 0.307884+0.239880I$	$5.48854+2.63483I$	0
$u=\ 0.581816+1.170380I$ $a=-1.004040-0.021511I$ $b=-1.71321-1.78870I$	$-3.53403+8.74159I$	0
$u=\ 0.581816-1.170380I$ $a=-1.004040+0.021511I$ $b=-1.71321+1.78870I$	$-3.53403-8.74159I$	0
$u=\ 0.639629+1.144080I$ $a=\ 1.138420+0.035144I$ $b=\ 1.64828+1.75166I$	$-3.1624+14.5549I$	0
$u=\ 0.639629-1.144080I$ $a=\ 1.138420-0.035144I$ $b=\ 1.64828-1.75166I$	$-3.1624-14.5549I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.524603 + 0.438211I$ $a = -0.257299 - 1.325500I$ $b = 0.626658 + 0.690600I$	$1.16110 - 1.96967I$	0
$u = 0.524603 - 0.438211I$ $a = -0.257299 + 1.325500I$ $b = 0.626658 - 0.690600I$	$1.16110 + 1.96967I$	0
$u = -0.674858$ $a = -0.567143$ $b = -0.737266$	1.49128	0
$u = 0.558717 + 0.339534I$ $a = -0.63735 - 1.81682I$ $b = 1.358860 - 0.026793I$	$-1.18666 - 5.53936I$	0
$u = 0.558717 - 0.339534I$ $a = -0.63735 + 1.81682I$ $b = 1.358860 + 0.026793I$	$-1.18666 + 5.53936I$	0
$u = -0.659130 + 1.188930I$ $a = -1.098130 + 0.046189I$ $b = -1.78395 + 1.68386I$	$0.5164 - 20.9394I$	0
$u = -0.659130 - 1.188930I$ $a = -1.098130 - 0.046189I$ $b = -1.78395 - 1.68386I$	$0.5164 + 20.9394I$	0
$u = 0.213648 + 1.345710I$ $a = 0.807404 + 0.324928I$ $b = 0.801005 - 0.264519I$	$-6.13848 + 0.51762I$	0
$u = 0.213648 - 1.345710I$ $a = 0.807404 - 0.324928I$ $b = 0.801005 + 0.264519I$	$-6.13848 - 0.51762I$	0
$u = -0.714766 + 1.179180I$ $a = 0.911915 - 0.093612I$ $b = 1.55484 - 1.62465I$	$-1.50682 - 11.37510I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.714766-1.179180I$ $a=\ 0.911915+0.093612I$ $b=\ 1.55484+1.62465I$	$-1.50682+11.37510I$	0
$u=-0.660434+1.224860I$ $a=-0.952845+0.173562I$ $b=-1.33681+1.16170I$	$-0.46271-11.80670I$	0
$u=-0.660434-1.224860I$ $a=-0.952845-0.173562I$ $b=-1.33681-1.16170I$	$-0.46271+11.80670I$	0
$u=-0.124340+1.387330I$ $a=\ 0.837052-0.402601I$ $b=\ 0.727661+0.037929I$	$-3.32713+11.30480I$	0
$u=-0.124340-1.387330I$ $a=\ 0.837052+0.402601I$ $b=\ 0.727661-0.037929I$	$-3.32713-11.30480I$	0
$u=\ 0.542595+0.169920I$ $a=-0.360565-0.974131I$ $b=\ 0.557584+0.419399I$	$0.61442-1.79575I$	$4.00000+4.02030I$
$u=\ 0.542595-0.169920I$ $a=-0.360565+0.974131I$ $b=\ 0.557584-0.419399I$	$0.61442+1.79575I$	$4.00000-4.02030I$
$u=\ 0.84391+1.16134I$ $a=\ 0.816111+0.464208I$ $b=\ 0.635339+1.035740I$	$-4.23390+3.71980I$	0
$u=\ 0.84391-1.16134I$ $a=\ 0.816111-0.464208I$ $b=\ 0.635339-1.035740I$	$-4.23390-3.71980I$	0
$u=\ 0.562859+0.011582I$ $a=-0.390904+1.113840I$ $b=\ 0.325831-0.403118I$	$0.61893+1.81384I$	$4.00000-3.86603I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.562859 - 0.011582I$ $a = -0.390904 - 1.113840I$ $b = 0.325831 + 0.403118I$	$0.61893 - 1.81384I$	$4.00000 + 3.86603I$
$u = -0.11419 + 1.52886I$ $a = -0.592759 + 0.209336I$ $b = -0.866644 - 0.316832I$	$-6.58013 + 1.05799I$	0
$u = -0.11419 - 1.52886I$ $a = -0.592759 - 0.209336I$ $b = -0.866644 + 0.316832I$	$-6.58013 - 1.05799I$	0
$u = -0.265826 + 0.317465I$ $a = -2.20859 + 1.94950I$ $b = 0.91040 + 1.09529I$	$-1.10062 - 5.11274I$	$3.78440 + 6.51067I$
$u = -0.265826 - 0.317465I$ $a = -2.20859 - 1.94950I$ $b = 0.91040 - 1.09529I$	$-1.10062 + 5.11274I$	$3.78440 - 6.51067I$
$u = -0.11490 + 1.65623I$ $a = 0.590546 - 0.106874I$ $b = 0.729457 - 0.209322I$	$-4.56523 + 0.42659I$	0
$u = -0.11490 - 1.65623I$ $a = 0.590546 + 0.106874I$ $b = 0.729457 + 0.209322I$	$-4.56523 - 0.42659I$	0

II.

$\boldsymbol{I_2^u = \langle -2.85\times10^{20}u^{51}+3.83\times10^{20}u^{50}+\cdots+1.56\times10^{19}b-6.54\times10^{19},\ -2.21\times10^{18}u^{51}+1.44\times10^{19}u^{50}+\cdots+8.19\times10^{17}a+2.27\times10^{19},\ u^{52}-2u^{51}+\cdots+2u+1\rangle}$

(i) Arc colorings

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

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

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

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

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

$$a_9 = \begin{pmatrix}2.69968u^{51}-17.5626u^{50}+\cdots-57.0901u-27.7782\\18.3096u^{51}-24.6322u^{50}+\cdots+58.0179u+4.20802\end{pmatrix}$$

$$a_5 = \begin{pmatrix}5.93550u^{51}+8.63101u^{50}+\cdots+32.7409u+19.5907\\32.8839u^{51}-38.7007u^{50}+\cdots+26.7779u+1.33941\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}-9.05380u^{51}+16.9004u^{50}+\cdots+43.7244u+14.1889\\3.24091u^{51}+7.20254u^{50}+\cdots+106.278u+38.9183\end{pmatrix}$$

$$a_4 = \begin{pmatrix}-14.8065u^{51}+31.8653u^{50}+\cdots-37.9995u-1.50065\\20.5958u^{51}-24.7159u^{50}+\cdots+13.2788u-1.50224\end{pmatrix}$$

$$a_8 = \begin{pmatrix}7.38976u^{51}-35.2434u^{50}+\cdots-64.4987u-42.2105\\10.4637u^{51}-11.7309u^{50}+\cdots+56.5020u+9.71805\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}-28.2638u^{51}+69.1607u^{50}+\cdots+76.4435u+52.4748\\-6.21746u^{51}+24.5660u^{50}+\cdots+10.6272u+12.4315\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}-51.0446u^{51}+93.3228u^{50}+\cdots+16.7725u+38.7921\\-29.0950u^{51}+63.6692u^{50}+\cdots-0.580714u+15.5667\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{680778166325939997939}{155518240410783733 81}u^{51}-\frac{1253143980495068819474}{1555182404107837338 1}u^{50}+\cdots+\frac{400710794572098027200}{1555182404107837338 1}u+\frac{213681854138388026690}{1555182404107837338 1}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{52} - 32u^{51} + \cdots - 36u + 1$
c_2	$u^{52} - 2u^{51} + \cdots + 2u + 1$
c_3	$u^{52} + 2u^{51} + \cdots + 2u + 1$
c_4	$u^{52} - 2u^{51} + \cdots + 705u + 41$
c_5	$u^{52} - u^{51} + \cdots + 2u + 1$
c_6	$u^{52} + 2u^{51} + \cdots - 2u + 1$
c_7	$u^{52} - 2u^{51} + \cdots - 11u + 1$
c_8	$u^{52} + 2u^{51} + \cdots + 41u + 31$
c_9	$u^{52} + u^{51} + \cdots - 2u + 1$
c_{10}	$u^{52} - 6u^{51} + \cdots + 3u + 1$
c_{11}	$u^{52} - 2u^{51} + \cdots - 2u + 1$
c_{12}	$u^{52} + 6u^{51} + \cdots - 10u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{52} - 4y^{51} + \cdots - 28y + 1$
c_2, c_6	$y^{52} + 32y^{51} + \cdots + 36y + 1$
c_3, c_{11}	$y^{52} - 30y^{51} + \cdots - 30y + 1$
c_4	$y^{52} - 6y^{51} + \cdots - 143769y + 1681$
c_5, c_9	$y^{52} + 33y^{51} + \cdots + 30y + 1$
c_7	$y^{52} + 10y^{51} + \cdots - 47y + 1$
c_8	$y^{52} + 2y^{51} + \cdots + 8549y + 961$
c_{10}	$y^{52} - 26y^{51} + \cdots + 23y + 1$
c_{12}	$y^{52} - 26y^{51} + \cdots - 26y + 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.250486+0.949427I$ $a=-1.36699+0.42938I$ $b=\ \ 0.219227+0.357400I$	$-2.57509-6.04416I$	$1.30602+7.87266I$
$u=-0.250486-0.949427I$ $a=-1.36699-0.42938I$ $b=\ \ 0.219227-0.357400I$	$-2.57509+6.04416I$	$1.30602-7.87266I$
$u=-0.278002+0.937785I$ $a=-1.45436+0.52156I$ $b=-1.52316+1.16059I$	$-2.58333+3.87025I$	$-0.81122-4.21736I$
$u=-0.278002-0.937785I$ $a=-1.45436-0.52156I$ $b=-1.52316-1.16059I$	$-2.58333-3.87025I$	$-0.81122+4.21736I$
$u=\ \ 0.317235+0.911455I$ $a=\ \ 1.68901+0.66613I$ $b=\ \ 0.672334+0.975496I$	$-7.77955+1.33038I$	$-8.6794+13.4763I$
$u=\ \ 0.317235-0.911455I$ $a=\ \ 1.68901-0.66613I$ $b=\ \ 0.672334-0.975496I$	$-7.77955-1.33038I$	$-8.6794-13.4763I$
$u=\ \ 0.277119+1.002760I$ $a=\ \ 1.183370+0.558054I$ $b=\ \ 1.49130-0.50860I$	$-5.41690-1.98693I$	$-5.10705+0.I$
$u=\ \ 0.277119-1.002760I$ $a=\ \ 1.183370-0.558054I$ $b=\ \ 1.49130+0.50860I$	$-5.41690+1.98693I$	$-5.10705+0.I$
$u=\ \ 0.891877+0.341999I$ $a=\ \ 0.011285-1.201670I$ $b=\ \ 1.273460-0.206752I$	$-0.38793-3.84339I$	$6.72573+8.71176I$
$u=\ \ 0.891877-0.341999I$ $a=\ \ 0.011285+1.201670I$ $b=\ \ 1.273460+0.206752I$	$-0.38793+3.84339I$	$6.72573-8.71176I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.612014+0.721237I$ $a=-0.537248+0.005234I$ $b=\ 0.0789334+0.0037222I$	$0.76556-3.69707I$	$3.03329+6.59989I$
$u=-0.612014-0.721237I$ $a=-0.537248-0.005234I$ $b=\ 0.0789334-0.0037222I$	$0.76556+3.69707I$	$3.03329-6.59989I$
$u=-0.830014+0.440057I$ $a=\ 0.106917-1.290050I$ $b=-0.594139-0.068354I$	$2.42247+4.60215I$	$6.43818-3.38001I$
$u=-0.830014-0.440057I$ $a=\ 0.106917+1.290050I$ $b=-0.594139+0.068354I$	$2.42247-4.60215I$	$6.43818+3.38001I$
$u=\ 0.202085+0.904298I$ $a=\ 1.41744+0.20765I$ $b=\ 0.864161-0.908862I$	$-4.92268+3.93893I$	$-3.03661-0.21533I$
$u=\ 0.202085-0.904298I$ $a=\ 1.41744-0.20765I$ $b=\ 0.864161+0.908862I$	$-4.92268-3.93893I$	$-3.03661+0.21533I$
$u=-0.390335+1.003400I$ $a=\ 0.604431+0.080849I$ $b=\ 1.81714-1.57199I$	$-1.17392-4.19886I$	$0.+5.44789I$
$u=-0.390335-1.003400I$ $a=\ 0.604431-0.080849I$ $b=\ 1.81714+1.57199I$	$-1.17392+4.19886I$	$0.-5.44789I$
$u=\ 0.484988+0.976121I$ $a=-0.57124+1.52800I$ $b=-2.03302+0.02167I$	$5.48506+2.75011I$	$-20.6637-9.6457I$
$u=\ 0.484988-0.976121I$ $a=-0.57124-1.52800I$ $b=-2.03302-0.02167I$	$5.48506-2.75011I$	$-20.6637+9.6457I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.507171+0.995418I$ $a=\ \ 0.033142+0.593501I$ $b=\ \ 0.160606-0.025108I$	$-0.231259-0.719629I$	0
$u=-0.507171-0.995418I$ $a=\ \ 0.033142-0.593501I$ $b=\ \ 0.160606+0.025108I$	$-0.231259+0.719629I$	0
$u=-0.506833+1.004930I$ $a=-0.026556+0.643657I$ $b=\ \ 1.278510-0.567185I$	$-0.18636-4.86041I$	0
$u=-0.506833-1.004930I$ $a=-0.026556-0.643657I$ $b=\ \ 1.278510+0.567185I$	$-0.18636+4.86041I$	0
$u=-0.651674+0.556635I$ $a=-0.842848+0.247115I$ $b=-1.21233+0.97477I$	$1.130090+0.430110I$	$4.73040-1.41767I$
$u=-0.651674-0.556635I$ $a=-0.842848-0.247115I$ $b=-1.21233-0.97477I$	$1.130090-0.430110I$	$4.73040+1.41767I$
$u=\ \ 0.470545+0.711650I$ $a=\ \ 1.20909-1.34284I$ $b=\ \ 1.54637+0.72040I$	$6.38640+1.19536I$	$0.39708+11.99950I$
$u=\ \ 0.470545-0.711650I$ $a=\ \ 1.20909+1.34284I$ $b=\ \ 1.54637-0.72040I$	$6.38640-1.19536I$	$0.39708-11.99950I$
$u=\ \ 0.320575+1.102630I$ $a=-0.744140+0.012528I$ $b=-2.84984-0.89455I$	$-0.08595+7.86478I$	0
$u=\ \ 0.320575-1.102630I$ $a=-0.744140-0.012528I$ $b=-2.84984+0.89455I$	$-0.08595-7.86478I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.384246+0.759259I$ $a=\ \ 0.233194-0.557693I$ $b=-1.71637+0.53582I$	$-0.311224+0.937022I$	$5.45842-0.13963I$
$u=-0.384246-0.759259I$ $a=\ \ 0.233194+0.557693I$ $b=-1.71637-0.53582I$	$-0.311224-0.937022I$	$5.45842+0.13963I$
$u=\ \ 0.782619+0.917623I$ $a=\ \ 0.381236+0.304125I$ $b=-0.848448+0.455971I$	$4.67720+8.08174I$	0
$u=\ \ 0.782619-0.917623I$ $a=\ \ 0.381236-0.304125I$ $b=-0.848448-0.455971I$	$4.67720-8.08174I$	0
$u=\ \ 0.247703+0.744914I$ $a=-0.692517-0.615693I$ $b=\ \ 2.20569+1.77958I$	$1.33470-5.43908I$	$8.83682+7.41778I$
$u=\ \ 0.247703-0.744914I$ $a=-0.692517+0.615693I$ $b=\ \ 2.20569-1.77958I$	$1.33470+5.43908I$	$8.83682-7.41778I$
$u=\ \ 0.894249+0.824587I$ $a=\ \ 0.433860+0.340364I$ $b=\ \ 0.242613+1.116700I$	$4.98332-1.90943I$	0
$u=\ \ 0.894249-0.824587I$ $a=\ \ 0.433860-0.340364I$ $b=\ \ 0.242613-1.116700I$	$4.98332+1.90943I$	0
$u=-0.623462+1.099800I$ $a=\ \ 1.118920-0.170146I$ $b=\ \ 1.71106-1.42993I$	$0.46170-10.03240I$	0
$u=-0.623462-1.099800I$ $a=\ \ 1.118920+0.170146I$ $b=\ \ 1.71106+1.42993I$	$0.46170+10.03240I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.578420 + 1.137480I$ $a = -1.004590 - 0.078444I$ $b = -1.78346 - 2.02412I$	$-2.82607 + 9.14984I$	0
$u = \quad 0.578420 - 1.137480I$ $a = -1.004590 + 0.078444I$ $b = -1.78346 + 2.02412I$	$-2.82607 - 9.14984I$	0
$u = \quad 0.81961 + 1.16429I$ $a = -0.836716 - 0.445472I$ $b = -0.667224 - 1.039000I$	$-4.24236 + 3.67561I$	0
$u = \quad 0.81961 - 1.16429I$ $a = -0.836716 + 0.445472I$ $b = -0.667224 + 1.039000I$	$-4.24236 - 3.67561I$	0
$u = \quad 0.07952 + 1.46668I$ $a = \quad 0.661679 + 0.149685I$ $b = \quad 0.875286 - 0.469797I$	$-6.86157 - 0.66603I$	0
$u = \quad 0.07952 - 1.46668I$ $a = \quad 0.661679 - 0.149685I$ $b = \quad 0.875286 + 0.469797I$	$-6.86157 + 0.66603I$	0
$u = -0.216989 + 0.401833I$ $a = -2.24163 - 0.09784I$ $b = \quad 0.852602 + 0.545250I$	$1.59764 - 4.02437I$	$8.07074 + 7.27073I$
$u = -0.216989 - 0.401833I$ $a = -2.24163 + 0.09784I$ $b = \quad 0.852602 - 0.545250I$	$1.59764 + 4.02437I$	$8.07074 - 7.27073I$
$u = -0.047469 + 0.427675I$ $a = -2.16989 - 0.89812I$ $b = -0.81099 + 1.39040I$	$1.68295 + 0.03164I$	$6.95472 + 0.09318I$
$u = -0.047469 - 0.427675I$ $a = -2.16989 + 0.89812I$ $b = -0.81099 - 1.39040I$	$1.68295 - 0.03164I$	$6.95472 - 0.09318I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.06786+1.63655I$ $a=-0.594851+0.117535I$ $b=-0.750309+0.061726I$	$-4.50239+0.61243I$	0
$u=-0.06786-1.63655I$ $a=-0.594851-0.117535I$ $b=-0.750309-0.061726I$	$-4.50239-0.61243I$	0

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^{52}-32u^{51}+\cdots-36u+1)$ $\cdot(u^{187}+91u^{186}+\cdots-674755484u-27447121)$
c_2	$(u^{52}-2u^{51}+\cdots+2u+1)(u^{187}-3u^{186}+\cdots+10920u-5239)$
c_3	$(u^{52}+2u^{51}+\cdots+2u+1)(u^{187}+u^{186}+\cdots+88574u-18569)$
c_4	$(u^{52}-2u^{51}+\cdots+705u+41)$ $\cdot(u^{187}-9u^{186}+\cdots+103686897391u-29441432969)$
c_5	$(u^{52}-u^{51}+\cdots+2u+1)(u^{187}+54u^{185}+\cdots-82696u-12769)$
c_6	$(u^{52}+2u^{51}+\cdots-2u+1)(u^{187}-3u^{186}+\cdots+10920u-5239)$
c_7	$(u^{52}-2u^{51}+\cdots-11u+1)$ $\cdot(u^{187}-3u^{186}+\cdots+26048247u-2479855)$
c_8	$(u^{52}+2u^{51}+\cdots+41u+31)$ $\cdot(u^{187}+3u^{186}+\cdots-1136700959u-173953039)$
c_9	$(u^{52}+u^{51}+\cdots-2u+1)(u^{187}+54u^{185}+\cdots-82696u-12769)$
c_{10}	$(u^{52}-6u^{51}+\cdots+3u+1)(u^{187}+13u^{186}+\cdots+29u+1)$
c_{11}	$(u^{52}-2u^{51}+\cdots-2u+1)(u^{187}+u^{186}+\cdots+88574u-18569)$
c_{12}	$(u^{52}+6u^{51}+\cdots-10u+1)(u^{187}-15u^{186}+\cdots+1290u-59)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^{52} - 4y^{51} + \cdots - 28y + 1)$ $\cdot (y^{187} + 31y^{186} + \cdots - 59316051338052392y - 753344451188641)$
c_2, c_6	$(y^{52} + 32y^{51} + \cdots + 36y + 1)$ $\cdot (y^{187} + 91y^{186} + \cdots - 674755484y - 27447121)$
c_3, c_{11}	$(y^{52} - 30y^{51} + \cdots - 30y + 1)$ $\cdot (y^{187} - 115y^{186} + \cdots + 15824267086y - 344807761)$
c_4	$(y^{52} - 6y^{51} + \cdots - 143769y + 1681)$ $\cdot (y^{187} + 33y^{186} + \cdots - 1.86 \times 10^{22}y - 8.67 \times 10^{20})$
c_5, c_9	$(y^{52} + 33y^{51} + \cdots + 30y + 1)$ $\cdot (y^{187} + 108y^{186} + \cdots - 13757691970y - 163047361)$
c_7	$(y^{52} + 10y^{51} + \cdots - 47y + 1)$ $\cdot (y^{187} - 27y^{186} + \cdots + 413324628737959y - 6149680821025)$
c_8	$(y^{52} + 2y^{51} + \cdots + 8549y + 961)$ $\cdot (y^{187} - 19y^{186} + \cdots + 1604876724149993791y - 30259659777335521)$
c_{10}	$(y^{52} - 26y^{51} + \cdots + 23y + 1)(y^{187} - 27y^{186} + \cdots - 175y - 1)$
c_{12}	$(y^{52} - 26y^{51} + \cdots - 26y + 1)(y^{187} - 19y^{186} + \cdots - 127730y - 3481)$