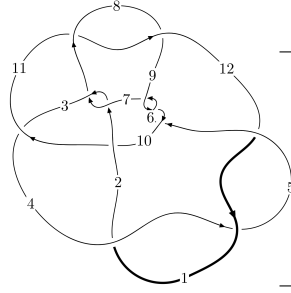
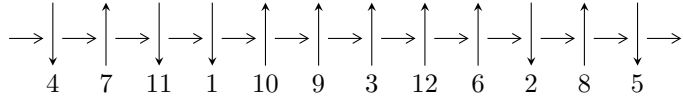


12a₁₁₀₈ (K12a₁₁₀₈)



A knot diagram¹

Linearized knot diagram



Solving Sequence

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

Ideals for irreducible components² of X_{par}

$$I_1^u = \langle -8.88369 \times 10^{219} u^{103} - 3.46423 \times 10^{220} u^{102} + \dots + 1.55368 \times 10^{220} b + 9.10459 \times 10^{221}, \\ 6.55031 \times 10^{220} u^{103} - 1.41928 \times 10^{221} u^{102} + \dots + 3.57346 \times 10^{221} a + 1.01047 \times 10^{224}, \\ u^{104} + 4u^{103} + \dots - 4255u - 529 \rangle$$

$$I_2^u = \langle u^{25} + 4u^{24} + \dots + b + 3, -u^{25} - 3u^{24} + \dots + a + 1, u^{27} + 3u^{26} + \dots + 6u + 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 131 representations.

¹The 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>).

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

$$\text{I. } I_1^u = \langle -8.88 \times 10^{219} u^{103} - 3.46 \times 10^{220} u^{102} + \dots + 1.55 \times 10^{220} b + 9.10 \times 10^{221}, 6.55 \times 10^{220} u^{103} - 1.42 \times 10^{221} u^{102} + \dots + 3.57 \times 10^{221} a + 1.01 \times 10^{224}, u^{104} + 4u^{103} + \dots - 4255u - 529 \rangle$$

(i) Arc colorings

$$\begin{aligned} a_5 &= \begin{pmatrix} 1 \\ 0 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} 0 \\ u \end{pmatrix} \\ a_1 &= \begin{pmatrix} -0.183304u^{103} + 0.397174u^{102} + \dots - 2245.37u - 282.771 \\ 0.571785u^{103} + 2.22970u^{102} + \dots - 600.028u - 58.6003 \end{pmatrix} \\ a_6 &= \begin{pmatrix} 1 \\ -u^2 \end{pmatrix} \\ a_4 &= \begin{pmatrix} -0.371940u^{103} - 1.83384u^{102} + \dots + 1047.48u + 109.993 \\ 0.155948u^{103} + 1.00054u^{102} + \dots - 985.578u - 114.243 \end{pmatrix} \\ a_2 &= \begin{pmatrix} 0.386064u^{103} + 1.36986u^{102} + \dots - 214.929u - 22.7915 \\ -0.285722u^{103} - 1.16300u^{102} + \dots + 450.273u + 54.6246 \end{pmatrix} \\ a_{11} &= \begin{pmatrix} 0.0442397u^{103} - 0.795827u^{102} + \dots + 2948.61u + 391.066 \\ 0.375507u^{103} + 2.42856u^{102} + \dots - 3062.77u - 379.760 \end{pmatrix} \\ a_3 &= \begin{pmatrix} 0.396800u^{103} + 1.56173u^{102} + \dots - 404.122u - 41.2529 \\ -0.283963u^{103} - 1.23407u^{102} + \dots + 609.778u + 70.8958 \end{pmatrix} \\ a_9 &= \begin{pmatrix} -u \\ u^3 + u \end{pmatrix} \\ a_7 &= \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix} \\ a_{12} &= \begin{pmatrix} 0.388481u^{103} + 2.62687u^{102} + \dots - 2845.40u - 341.371 \\ 0.571785u^{103} + 2.22970u^{102} + \dots - 600.028u - 58.6003 \end{pmatrix} \\ a_8 &= \begin{pmatrix} 0.201012u^{103} + 1.99070u^{102} + \dots - 3254.17u - 404.502 \\ 0.251586u^{103} + 0.498810u^{102} + \dots + 1127.65u + 152.910 \end{pmatrix} \end{aligned}$$

(ii) Obstruction class = -1

$$\text{(iii) Cusp Shapes} = -2.72322u^{103} - 10.0804u^{102} + \dots + 428.095u - 67.4251$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_4, c_{12}	$u^{104} - 4u^{103} + \dots + 30u - 4$
c_2, c_7	$u^{104} + u^{103} + \dots + 795u + 2071$
c_3	$u^{104} + 26u^{102} + \dots + 8003385u - 1611677$
c_5, c_6, c_9	$u^{104} + 4u^{103} + \dots - 4255u - 529$
c_8, c_{11}	$u^{104} - 42u^{102} + \dots - 17433u + 11887$
c_{10}	$u^{104} + 7u^{103} + \dots + 3018333u - 281591$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$y^{104} + 106y^{103} + \dots - 1084y + 16$
c_2, c_7	$y^{104} - 71y^{103} + \dots - 59982743y + 4289041$
c_3	$y^{104} + 52y^{103} + \dots + 80900979801019y + 2597502752329$
c_5, c_6, c_9	$y^{104} + 96y^{103} + \dots - 1564253y + 279841$
c_8, c_{11}	$y^{104} - 84y^{103} + \dots - 776703027y + 141300769$
c_{10}	$y^{104} + 23y^{103} + \dots - 1658049684805y + 79293491281$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.998404 + 0.066441I$ $a = 0.40664 + 2.25976I$ $b = 0.024542 - 1.362530I$	$5.41766 + 0.40969I$	0
$u = 0.998404 - 0.066441I$ $a = 0.40664 - 2.25976I$ $b = 0.024542 + 1.362530I$	$5.41766 - 0.40969I$	0
$u = -0.969486 + 0.282556I$ $a = 0.04918 - 2.23361I$ $b = -0.149167 + 1.248050I$	$5.89794 + 2.79943I$	0
$u = -0.969486 - 0.282556I$ $a = 0.04918 + 2.23361I$ $b = -0.149167 - 1.248050I$	$5.89794 - 2.79943I$	0
$u = 0.872225 + 0.386027I$ $a = -0.63402 - 1.93115I$ $b = -0.23272 + 1.53537I$	$8.77117 + 6.22222I$	0
$u = 0.872225 - 0.386027I$ $a = -0.63402 + 1.93115I$ $b = -0.23272 - 1.53537I$	$8.77117 - 6.22222I$	0
$u = -0.633735 + 0.860627I$ $a = -0.285219 - 0.398896I$ $b = 0.427811 - 0.402352I$	$4.64761 + 3.38555I$	0
$u = -0.633735 - 0.860627I$ $a = -0.285219 + 0.398896I$ $b = 0.427811 + 0.402352I$	$4.64761 - 3.38555I$	0
$u = 0.073852 + 1.066990I$ $a = 2.00678 - 0.01381I$ $b = 0.305195 - 1.270380I$	$6.26427 + 4.42302I$	0
$u = 0.073852 - 1.066990I$ $a = 2.00678 + 0.01381I$ $b = 0.305195 + 1.270380I$	$6.26427 - 4.42302I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.023460 + 0.312641I$ $a = 0.53307 - 2.07864I$ $b = 0.25526 + 1.51975I$	$12.9579 - 11.9173I$	0
$u = -1.023460 - 0.312641I$ $a = 0.53307 + 2.07864I$ $b = 0.25526 - 1.51975I$	$12.9579 + 11.9173I$	0
$u = -0.928373$ $a = 0.323165$ $b = -0.614916$	2.21584	0
$u = 0.785609 + 0.754829I$ $a = 0.81012 + 1.33339I$ $b = -0.08988 - 1.48205I$	$7.69660 - 0.76643I$	0
$u = 0.785609 - 0.754829I$ $a = 0.81012 - 1.33339I$ $b = -0.08988 + 1.48205I$	$7.69660 + 0.76643I$	0
$u = -0.822823 + 0.300153I$ $a = -0.136303 - 0.641555I$ $b = 0.729313 + 0.530280I$	$6.29249 - 8.31502I$	0
$u = -0.822823 - 0.300153I$ $a = -0.136303 + 0.641555I$ $b = 0.729313 - 0.530280I$	$6.29249 + 8.31502I$	0
$u = 0.651115 + 0.577237I$ $a = -0.40122 - 2.24284I$ $b = 0.169860 + 1.381650I$	$7.11747 - 1.89662I$	0
$u = 0.651115 - 0.577237I$ $a = -0.40122 + 2.24284I$ $b = 0.169860 - 1.381650I$	$7.11747 + 1.89662I$	0
$u = -0.181205 + 1.139620I$ $a = -0.111011 + 0.759565I$ $b = 0.14074 - 1.71793I$	$10.52570 - 2.57968I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.181205 - 1.139620I$ $a = -0.111011 - 0.759565I$ $b = 0.14074 + 1.71793I$	$10.52570 + 2.57968I$	0
$u = 0.082428 + 1.155290I$ $a = -2.21153 - 1.42249I$ $b = -0.027261 + 1.335620I$	$5.81144 - 3.37082I$	0
$u = 0.082428 - 1.155290I$ $a = -2.21153 + 1.42249I$ $b = -0.027261 - 1.335620I$	$5.81144 + 3.37082I$	0
$u = -0.098594 + 1.227330I$ $a = 0.06407 - 1.94244I$ $b = -0.01603 + 1.65998I$	$9.41869 + 0.21611I$	0
$u = -0.098594 - 1.227330I$ $a = 0.06407 + 1.94244I$ $b = -0.01603 - 1.65998I$	$9.41869 - 0.21611I$	0
$u = -0.196901 + 1.225630I$ $a = 1.163310 - 0.102328I$ $b = 0.834652 + 0.152457I$	$2.82236 + 0.39547I$	0
$u = -0.196901 - 1.225630I$ $a = 1.163310 + 0.102328I$ $b = 0.834652 - 0.152457I$	$2.82236 - 0.39547I$	0
$u = 0.136309 + 1.256230I$ $a = -0.543584 + 0.051104I$ $b = -0.796096 - 1.079340I$	$-1.41379 - 0.49702I$	0
$u = 0.136309 - 1.256230I$ $a = -0.543584 - 0.051104I$ $b = -0.796096 + 1.079340I$	$-1.41379 + 0.49702I$	0
$u = 0.571816 + 0.454044I$ $a = -0.216301 - 0.296006I$ $b = 0.443926 + 0.330981I$	$1.77754 + 0.38509I$	$4.38443 + 0.48534I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.571816 - 0.454044I$		
$a = -0.216301 + 0.296006I$	$1.77754 - 0.38509I$	$4.38443 - 0.48534I$
$b = 0.443926 - 0.330981I$		
$u = 0.667908 + 0.292392I$		
$a = 0.96415 + 3.27127I$	$7.79155 + 5.85095I$	$9.05721 - 6.34260I$
$b = 0.15855 - 1.46104I$		
$u = 0.667908 - 0.292392I$		
$a = 0.96415 - 3.27127I$	$7.79155 - 5.85095I$	$9.05721 + 6.34260I$
$b = 0.15855 + 1.46104I$		
$u = 0.573518 + 0.444519I$		
$a = 0.217991 + 1.214100I$	$1.77117 + 3.47379I$	$4.30454 - 8.11372I$
$b = 0.503464 - 0.394630I$		
$u = 0.573518 - 0.444519I$		
$a = 0.217991 - 1.214100I$	$1.77117 - 3.47379I$	$4.30454 + 8.11372I$
$b = 0.503464 + 0.394630I$		
$u = -0.130265 + 1.284020I$		
$a = -1.66242 - 0.57082I$	$1.67702 - 4.00381I$	0
$b = -0.161378 - 0.095670I$		
$u = -0.130265 - 1.284020I$		
$a = -1.66242 + 0.57082I$	$1.67702 + 4.00381I$	0
$b = -0.161378 + 0.095670I$		
$u = -0.672561 + 0.216268I$		
$a = 1.00368 - 1.90578I$	$13.11990 - 0.50623I$	$12.21127 + 0.97407I$
$b = 0.25153 + 1.56236I$		
$u = -0.672561 - 0.216268I$		
$a = 1.00368 + 1.90578I$	$13.11990 + 0.50623I$	$12.21127 - 0.97407I$
$b = 0.25153 - 1.56236I$		
$u = -0.172810 + 1.289970I$		
$a = 1.03528 - 1.11652I$	$0.233186 + 0.396521I$	0
$b = 0.119702 + 1.332210I$		

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.172810 - 1.289970I$ $a = 1.03528 + 1.11652I$ $b = 0.119702 - 1.332210I$	$0.233186 - 0.396521I$	0
$u = 0.671616$ $a = 0.393968$ $b = 0.121223$	1.05986	13.1460
$u = -0.207093 + 1.327860I$ $a = -1.29131 + 1.11059I$ $b = -0.29956 - 1.47499I$	$-0.26646 - 5.70650I$	0
$u = -0.207093 - 1.327860I$ $a = -1.29131 - 1.11059I$ $b = -0.29956 + 1.47499I$	$-0.26646 + 5.70650I$	0
$u = -0.810446 + 1.082160I$ $a = -0.518297 + 1.276570I$ $b = 0.16861 - 1.46801I$	$10.77610 + 5.67331I$	0
$u = -0.810446 - 1.082160I$ $a = -0.518297 - 1.276570I$ $b = 0.16861 + 1.46801I$	$10.77610 - 5.67331I$	0
$u = -0.250365 + 1.338370I$ $a = 0.281599 + 0.064221I$ $b = 0.862834 - 0.787889I$	$1.63639 - 6.53052I$	0
$u = -0.250365 - 1.338370I$ $a = 0.281599 - 0.064221I$ $b = 0.862834 + 0.787889I$	$1.63639 + 6.53052I$	0
$u = 0.393489 + 1.303500I$ $a = -0.68596 - 1.41890I$ $b = -0.14152 + 1.43341I$	$1.40965 + 4.51412I$	0
$u = 0.393489 - 1.303500I$ $a = -0.68596 + 1.41890I$ $b = -0.14152 - 1.43341I$	$1.40965 - 4.51412I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.539367 + 0.337757I$ $a = 0.975272 - 0.257796I$ $b = -0.064074 - 0.350230I$	$1.46743 + 0.10661I$	$5.93203 + 0.60348I$
$u = 0.539367 - 0.337757I$ $a = 0.975272 + 0.257796I$ $b = -0.064074 + 0.350230I$	$1.46743 - 0.10661I$	$5.93203 - 0.60348I$
$u = -0.625129 + 0.102895I$ $a = 0.138815 + 0.941849I$ $b = 0.778379 - 0.524859I$	$6.20399 - 3.33840I$	$9.20206 + 2.72693I$
$u = -0.625129 - 0.102895I$ $a = 0.138815 - 0.941849I$ $b = 0.778379 + 0.524859I$	$6.20399 + 3.33840I$	$9.20206 - 2.72693I$
$u = -0.072414 + 1.379240I$ $a = -0.640172 + 0.519110I$ $b = -0.786982 - 0.376868I$	$-6.25007 - 1.75695I$	0
$u = -0.072414 - 1.379240I$ $a = -0.640172 - 0.519110I$ $b = -0.786982 + 0.376868I$	$-6.25007 + 1.75695I$	0
$u = -0.229091 + 1.365350I$ $a = -0.037639 - 0.653313I$ $b = -0.382110 + 0.941592I$	$0.278441 - 0.737804I$	0
$u = -0.229091 - 1.365350I$ $a = -0.037639 + 0.653313I$ $b = -0.382110 - 0.941592I$	$0.278441 + 0.737804I$	0
$u = 0.567239 + 0.205735I$ $a = -0.064922 - 0.596855I$ $b = -0.763362 + 0.623857I$	$1.72979 + 2.71370I$	$8.69800 - 7.54641I$
$u = 0.567239 - 0.205735I$ $a = -0.064922 + 0.596855I$ $b = -0.763362 - 0.623857I$	$1.72979 - 2.71370I$	$8.69800 + 7.54641I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.244641 + 1.378890I$ $a = -0.704509 - 0.351277I$ $b = -1.005120 + 0.397758I$	$-3.32666 + 5.76599I$	0
$u = 0.244641 - 1.378890I$ $a = -0.704509 + 0.351277I$ $b = -1.005120 - 0.397758I$	$-3.32666 - 5.76599I$	0
$u = -0.522796 + 1.301600I$ $a = -1.18192 + 1.47657I$ $b = -0.270766 - 1.344250I$	$2.56525 - 8.31671I$	0
$u = -0.522796 - 1.301600I$ $a = -1.18192 - 1.47657I$ $b = -0.270766 + 1.344250I$	$2.56525 + 8.31671I$	0
$u = -0.386313 + 1.358230I$ $a = -0.343760 + 0.501923I$ $b = -0.729258 - 0.163103I$	$-2.16914 - 4.72705I$	0
$u = -0.386313 - 1.358230I$ $a = -0.343760 - 0.501923I$ $b = -0.729258 + 0.163103I$	$-2.16914 + 4.72705I$	0
$u = -0.28742 + 1.39789I$ $a = 1.250790 - 0.364112I$ $b = 0.36538 + 1.43826I$	$7.95514 - 4.03865I$	0
$u = -0.28742 - 1.39789I$ $a = 1.250790 + 0.364112I$ $b = 0.36538 - 1.43826I$	$7.95514 + 4.03865I$	0
$u = 0.21370 + 1.41327I$ $a = 0.605805 + 0.166674I$ $b = 0.542202 - 0.063337I$	$-4.04218 + 2.97751I$	0
$u = 0.21370 - 1.41327I$ $a = 0.605805 - 0.166674I$ $b = 0.542202 + 0.063337I$	$-4.04218 - 2.97751I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.21887 + 1.41889I$ $a = -1.68782 + 0.11155I$ $b = -0.06655 - 1.41986I$	$6.85407 - 4.86950I$	0
$u = -0.21887 - 1.41889I$ $a = -1.68782 - 0.11155I$ $b = -0.06655 + 1.41986I$	$6.85407 + 4.86950I$	0
$u = -0.501834 + 0.255964I$ $a = -2.79604 + 1.81261I$ $b = 0.00008 - 1.53491I$	$12.29450 - 2.11950I$	$13.9495 + 3.8281I$
$u = -0.501834 - 0.255964I$ $a = -2.79604 - 1.81261I$ $b = 0.00008 + 1.53491I$	$12.29450 + 2.11950I$	$13.9495 - 3.8281I$
$u = 0.07061 + 1.43505I$ $a = -0.287140 - 0.116310I$ $b = -0.445250 + 0.808015I$	$-4.94431 + 2.81434I$	0
$u = 0.07061 - 1.43505I$ $a = -0.287140 + 0.116310I$ $b = -0.445250 - 0.808015I$	$-4.94431 - 2.81434I$	0
$u = 0.27439 + 1.41169I$ $a = 1.35331 + 1.41659I$ $b = 0.22053 - 1.52889I$	$2.36733 + 9.32735I$	0
$u = 0.27439 - 1.41169I$ $a = 1.35331 - 1.41659I$ $b = 0.22053 + 1.52889I$	$2.36733 - 9.32735I$	0
$u = 0.01734 + 1.44545I$ $a = 0.396386 - 0.751706I$ $b = 0.268892 + 1.158060I$	$-0.534801 - 0.028205I$	0
$u = 0.01734 - 1.44545I$ $a = 0.396386 + 0.751706I$ $b = 0.268892 - 1.158060I$	$-0.534801 + 0.028205I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.549662 + 0.041925I$ $a = -0.09236 + 3.36928I$ $b = -0.153243 - 1.394490I$	$4.09130 - 2.97513I$	$1.12422 + 4.10553I$
$u = -0.549662 - 0.041925I$ $a = -0.09236 - 3.36928I$ $b = -0.153243 + 1.394490I$	$4.09130 + 2.97513I$	$1.12422 - 4.10553I$
$u = 0.18947 + 1.45243I$ $a = 0.658336 + 0.700750I$ $b = 0.615723 - 0.503069I$	$-4.33718 + 6.21858I$	0
$u = 0.18947 - 1.45243I$ $a = 0.658336 - 0.700750I$ $b = 0.615723 + 0.503069I$	$-4.33718 - 6.21858I$	0
$u = -0.33054 + 1.42798I$ $a = 0.616003 - 0.560579I$ $b = 0.920195 + 0.479120I$	$0.79859 - 12.47880I$	0
$u = -0.33054 - 1.42798I$ $a = 0.616003 + 0.560579I$ $b = 0.920195 - 0.479120I$	$0.79859 + 12.47880I$	0
$u = 0.06538 + 1.47185I$ $a = 0.361525 - 0.221663I$ $b = 0.461071 + 0.284534I$	$-4.56537 + 2.56676I$	0
$u = 0.06538 - 1.47185I$ $a = 0.361525 + 0.221663I$ $b = 0.461071 - 0.284534I$	$-4.56537 - 2.56676I$	0
$u = 0.39903 + 1.42674I$ $a = 1.17849 + 1.06086I$ $b = 0.171298 - 1.352080I$	$0.49101 + 5.48323I$	0
$u = 0.39903 - 1.42674I$ $a = 1.17849 - 1.06086I$ $b = 0.171298 + 1.352080I$	$0.49101 - 5.48323I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.472827 + 0.144736I$ $a = -1.58765 - 2.63391I$ $b = -0.026338 + 0.558642I$	$5.26654 + 1.96738I$	$14.2458 - 2.6393I$
$u = -0.472827 - 0.144736I$ $a = -1.58765 + 2.63391I$ $b = -0.026338 - 0.558642I$	$5.26654 - 1.96738I$	$14.2458 + 2.6393I$
$u = 0.15160 + 1.50309I$ $a = 0.023024 - 0.305139I$ $b = -0.070230 + 0.432947I$	$-4.71084 + 2.85923I$	0
$u = 0.15160 - 1.50309I$ $a = 0.023024 + 0.305139I$ $b = -0.070230 - 0.432947I$	$-4.71084 - 2.85923I$	0
$u = 0.35014 + 1.47046I$ $a = -1.130810 - 0.831992I$ $b = -0.36239 + 1.51575I$	$2.85832 + 10.65370I$	0
$u = 0.35014 - 1.47046I$ $a = -1.130810 + 0.831992I$ $b = -0.36239 - 1.51575I$	$2.85832 - 10.65370I$	0
$u = -0.41431 + 1.47342I$ $a = 1.23289 - 1.08392I$ $b = 0.33859 + 1.53104I$	$7.2848 - 17.0538I$	0
$u = -0.41431 - 1.47342I$ $a = 1.23289 + 1.08392I$ $b = 0.33859 - 1.53104I$	$7.2848 + 17.0538I$	0
$u = 0.113165 + 0.423487I$ $a = 0.246557 - 0.386479I$ $b = -0.306576 + 0.975377I$	$1.08545 + 2.15056I$	$-3.09530 - 5.75751I$
$u = 0.113165 - 0.423487I$ $a = 0.246557 + 0.386479I$ $b = -0.306576 - 0.975377I$	$1.08545 - 2.15056I$	$-3.09530 + 5.75751I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.227567 + 0.261070I$		
$a = 0.20134 + 1.41758I$	$-1.043770 - 0.672454I$	$-5.80489 + 2.84262I$
$b = -0.504243 - 0.205514I$		
$u = -0.227567 - 0.261070I$		
$a = 0.20134 - 1.41758I$	$-1.043770 + 0.672454I$	$-5.80489 - 2.84262I$
$b = -0.504243 + 0.205514I$		
$u = 0.13415 + 1.72704I$		
$a = 0.292858 + 0.442501I$	$-1.07790 + 3.06653I$	0
$b = 0.018613 - 1.343400I$		
$u = 0.13415 - 1.72704I$		
$a = 0.292858 - 0.442501I$	$-1.07790 - 3.06653I$	0
$b = 0.018613 + 1.343400I$		

II.

$$I_2^u = \langle u^{25} + 4u^{24} + \dots + b + 3, -u^{25} - 3u^{24} + \dots + a + 1, u^{27} + 3u^{26} + \dots + 6u + 1 \rangle$$

(i) Arc colorings

$$\begin{aligned} a_5 &= \begin{pmatrix} 1 \\ 0 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} 0 \\ u \end{pmatrix} \\ a_1 &= \begin{pmatrix} u^{25} + 3u^{24} + \dots + 4u - 1 \\ -u^{25} - 4u^{24} + \dots - 15u - 3 \end{pmatrix} \\ a_6 &= \begin{pmatrix} 1 \\ -u^2 \end{pmatrix} \\ a_4 &= \begin{pmatrix} -3u^{26} - 9u^{25} + \dots - 16u - 2 \\ u^{26} + 6u^{25} + \dots + 9u + 2 \end{pmatrix} \\ a_2 &= \begin{pmatrix} -u^{26} - 6u^{25} + \dots - 5u - 1 \\ -3u^{26} - 4u^{25} + \dots + 21u + 4 \end{pmatrix} \\ a_{11} &= \begin{pmatrix} -u^{26} - 5u^{25} + \dots - 7u - 1 \\ 7u^{25} + 21u^{24} + \dots + 38u + 6 \end{pmatrix} \\ a_3 &= \begin{pmatrix} -2u^{26} - 9u^{25} + \dots - 13u - 2 \\ 5u^{25} + 16u^{24} + \dots + 23u + 4 \end{pmatrix} \\ a_9 &= \begin{pmatrix} -u \\ u^3 + u \end{pmatrix} \\ a_7 &= \begin{pmatrix} u^2 + 1 \\ -u^4 - 2u^2 \end{pmatrix} \\ a_{12} &= \begin{pmatrix} -u^{24} - 3u^{23} + \dots - 11u - 4 \\ -u^{25} - 4u^{24} + \dots - 15u - 3 \end{pmatrix} \\ a_8 &= \begin{pmatrix} u^{26} + 4u^{25} + \dots + 17u + 5 \\ u^{26} + u^{25} + \dots + 5u + 1 \end{pmatrix} \end{aligned}$$

(ii) Obstruction class = 1

(iii) Cusp Shapes

$$\begin{aligned} &= 5u^{25} + 13u^{24} + 85u^{23} + 182u^{22} + 610u^{21} + 1102u^{20} + 2453u^{19} + 3799u^{18} + 6173u^{17} + \\ &8267u^{16} + 10319u^{15} + 11931u^{14} + 12010u^{13} + 11760u^{12} + 10241u^{11} + 8170u^{10} + \\ &6609u^9 + 4250u^8 + 3054u^7 + 1807u^6 + 882u^5 + 599u^4 + 180u^3 + 103u^2 + 29u + 14 \end{aligned}$$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{12}	$u^{27} - 3u^{26} + \dots + 2u - 1$
c_2	$u^{27} - 9u^{25} + \dots - 8u^2 + 1$
c_3	$u^{27} - u^{26} + \dots + 9u^2 + 1$
c_4	$u^{27} + 3u^{26} + \dots + 2u + 1$
c_5, c_6	$u^{27} + 3u^{26} + \dots + 6u + 1$
c_7	$u^{27} - 9u^{25} + \dots + 8u^2 - 1$
c_8	$u^{27} - 5u^{26} + \dots - 2u + 1$
c_9	$u^{27} - 3u^{26} + \dots + 6u - 1$
c_{10}	$u^{27} - 2u^{24} + \dots - 6u - 1$
c_{11}	$u^{27} + 5u^{26} + \dots - 2u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$y^{27} + 31y^{26} + \dots - 8y - 1$
c_2, c_7	$y^{27} - 18y^{26} + \dots + 16y - 1$
c_3	$y^{27} + 9y^{26} + \dots - 18y - 1$
c_5, c_6, c_9	$y^{27} + 29y^{26} + \dots - 2y - 1$
c_8, c_{11}	$y^{27} - 27y^{26} + \dots + 24y - 1$
c_{10}	$y^{27} - 4y^{25} + \dots - 26y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.953121 + 0.270021I$ $a = 0.21006 - 2.20597I$ $b = -0.138665 + 1.343430I$	$5.00078 + 1.91899I$	$3.53402 - 0.96985I$
$u = -0.953121 - 0.270021I$ $a = 0.21006 + 2.20597I$ $b = -0.138665 - 1.343430I$	$5.00078 - 1.91899I$	$3.53402 + 0.96985I$
$u = -0.844792$ $a = 0.232958$ $b = -0.401656$	0.639115	-8.33940
$u = 0.025992 + 1.215150I$ $a = 0.63219 - 1.63481I$ $b = 0.07781 + 1.66159I$	$9.28897 + 1.43370I$	$5.01219 - 4.00671I$
$u = 0.025992 - 1.215150I$ $a = 0.63219 + 1.63481I$ $b = 0.07781 - 1.66159I$	$9.28897 - 1.43370I$	$5.01219 + 4.00671I$
$u = 0.112036 + 1.269680I$ $a = 1.38122 - 0.60102I$ $b = 0.410532 + 0.372903I$	$1.65209 + 3.38872I$	$3.97132 + 1.99113I$
$u = 0.112036 - 1.269680I$ $a = 1.38122 + 0.60102I$ $b = 0.410532 - 0.372903I$	$1.65209 - 3.38872I$	$3.97132 - 1.99113I$
$u = 0.474983 + 0.534120I$ $a = -1.07777 - 3.50732I$ $b = 0.099942 + 1.298690I$	$7.86766 - 3.16902I$	$11.98247 + 2.71676I$
$u = 0.474983 - 0.534120I$ $a = -1.07777 + 3.50732I$ $b = 0.099942 - 1.298690I$	$7.86766 + 3.16902I$	$11.98247 - 2.71676I$
$u = 0.206747 + 1.299110I$ $a = 2.05472 + 0.24015I$ $b = 0.204486 - 1.302700I$	$4.93364 + 5.66240I$	$4.09828 - 6.00158I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.206747 - 1.299110I$ $a = 2.05472 - 0.24015I$ $b = 0.204486 + 1.302700I$	$4.93364 - 5.66240I$	$4.09828 + 6.00158I$
$u = -0.101175 + 1.329440I$ $a = -0.455244 - 0.405502I$ $b = -0.604161 + 1.075950I$	$-2.47041 + 0.63128I$	$-1.17981 - 1.34152I$
$u = -0.101175 - 1.329440I$ $a = -0.455244 + 0.405502I$ $b = -0.604161 - 1.075950I$	$-2.47041 - 0.63128I$	$-1.17981 + 1.34152I$
$u = 0.064544 + 0.651511I$ $a = -0.562891 - 0.083563I$ $b = 0.04264 - 1.59060I$	$11.45130 - 1.10960I$	$9.17208 - 0.20764I$
$u = 0.064544 - 0.651511I$ $a = -0.562891 + 0.083563I$ $b = 0.04264 + 1.59060I$	$11.45130 + 1.10960I$	$9.17208 + 0.20764I$
$u = 0.261887 + 0.531153I$ $a = -0.84496 - 1.60343I$ $b = 0.205953 - 0.319778I$	$4.44858 - 2.02609I$	$3.57896 + 1.32740I$
$u = 0.261887 - 0.531153I$ $a = -0.84496 + 1.60343I$ $b = 0.205953 + 0.319778I$	$4.44858 + 2.02609I$	$3.57896 - 1.32740I$
$u = -0.399249 + 1.350510I$ $a = -1.15237 + 1.29768I$ $b = -0.22963 - 1.43459I$	$1.26374 - 6.84192I$	$4.75336 + 5.44208I$
$u = -0.399249 - 1.350510I$ $a = -1.15237 - 1.29768I$ $b = -0.22963 + 1.43459I$	$1.26374 + 6.84192I$	$4.75336 - 5.44208I$
$u = -0.23800 + 1.41045I$ $a = -0.507042 + 0.320211I$ $b = -0.606888 - 0.319468I$	$-4.36033 - 3.84066I$	$-0.61771 + 6.76680I$

Solutions to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.23800 - 1.41045I$		
$a = -0.507042 - 0.320211I$	$-4.36033 + 3.84066I$	$-0.61771 - 6.76680I$
$b = -0.606888 + 0.319468I$		
$u = -0.11037 + 1.51491I$		
$a = -0.285999 - 0.066289I$	$-4.28572 - 3.34164I$	$6.49116 + 6.76473I$
$b = -0.232289 - 0.749147I$		
$u = -0.11037 - 1.51491I$		
$a = -0.285999 + 0.066289I$	$-4.28572 + 3.34164I$	$6.49116 - 6.76473I$
$b = -0.232289 + 0.749147I$		
$u = -0.17455 + 1.64659I$		
$a = 0.116623 - 0.702219I$	$-2.12873 - 2.36216I$	0
$b = -0.054303 + 1.228230I$		
$u = -0.17455 - 1.64659I$		
$a = 0.116623 + 0.702219I$	$-2.12873 + 2.36216I$	0
$b = -0.054303 - 1.228230I$		
$u = -0.247316 + 0.147370I$		
$a = -1.62502 - 0.18943I$	$1.56250 - 1.88777I$	$9.68720 - 1.71213I$
$b = -0.474585 - 0.911358I$		
$u = -0.247316 - 0.147370I$		
$a = -1.62502 + 0.18943I$	$1.56250 + 1.88777I$	$9.68720 + 1.71213I$
$b = -0.474585 + 0.911358I$		

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{12}	$(u^{27} - 3u^{26} + \dots + 2u - 1)(u^{104} - 4u^{103} + \dots + 30u - 4)$
c_2	$(u^{27} - 9u^{25} + \dots - 8u^2 + 1)(u^{104} + u^{103} + \dots + 795u + 2071)$
c_3	$(u^{27} - u^{26} + \dots + 9u^2 + 1)(u^{104} + 26u^{102} + \dots + 8003385u - 1611677)$
c_4	$(u^{27} + 3u^{26} + \dots + 2u + 1)(u^{104} - 4u^{103} + \dots + 30u - 4)$
c_5, c_6	$(u^{27} + 3u^{26} + \dots + 6u + 1)(u^{104} + 4u^{103} + \dots - 4255u - 529)$
c_7	$(u^{27} - 9u^{25} + \dots + 8u^2 - 1)(u^{104} + u^{103} + \dots + 795u + 2071)$
c_8	$(u^{27} - 5u^{26} + \dots - 2u + 1)(u^{104} - 42u^{102} + \dots - 17433u + 11887)$
c_9	$(u^{27} - 3u^{26} + \dots + 6u - 1)(u^{104} + 4u^{103} + \dots - 4255u - 529)$
c_{10}	$(u^{27} - 2u^{24} + \dots - 6u - 1)(u^{104} + 7u^{103} + \dots + 3018333u - 281591)$
c_{11}	$(u^{27} + 5u^{26} + \dots - 2u - 1)(u^{104} - 42u^{102} + \dots - 17433u + 11887)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_4, c_{12}	$(y^{27} + 31y^{26} + \dots - 8y - 1)(y^{104} + 106y^{103} + \dots - 1084y + 16)$
c_2, c_7	$(y^{27} - 18y^{26} + \dots + 16y - 1)$ $\cdot (y^{104} - 71y^{103} + \dots - 59982743y + 4289041)$
c_3	$(y^{27} + 9y^{26} + \dots - 18y - 1)$ $\cdot (y^{104} + 52y^{103} + \dots + 80900979801019y + 2597502752329)$
c_5, c_6, c_9	$(y^{27} + 29y^{26} + \dots - 2y - 1)$ $\cdot (y^{104} + 96y^{103} + \dots - 1564253y + 279841)$
c_8, c_{11}	$(y^{27} - 27y^{26} + \dots + 24y - 1)$ $\cdot (y^{104} - 84y^{103} + \dots - 776703027y + 141300769)$
c_{10}	$(y^{27} - 4y^{25} + \dots - 26y - 1)$ $\cdot (y^{104} + 23y^{103} + \dots - 1658049684805y + 79293491281)$