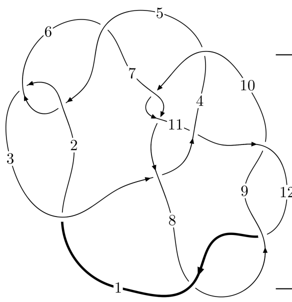
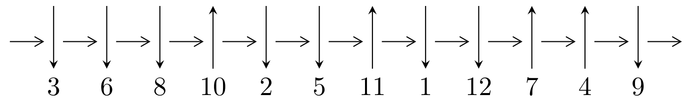
$12a_{0291}$ ($K12a_{0291}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & -4.04111 \times 10^{126} u^{84} - 1.47004 \times 10^{127} u^{83} + \cdots + 7.92770 \times 10^{126} b + 7.78808 \times 10^{126}, \\ & -6.64112 \times 10^{126} u^{84} - 2.58904 \times 10^{127} u^{83} + \cdots + 7.92770 \times 10^{126} a - 2.36197 \times 10^{127}, \\ & u^{85} + 4u^{84} + \cdots + 14u + 2 \rangle \end{aligned}$$

$$I_2^u = \langle -au + b,\ 9a^3 - 6a^2u + 3a^2 - 6a + 2u - 1,\ u^2 - u + 1 \rangle$$

$$I_3^u = \langle b + u + 1,\ 2a - 3u - 2,\ u^2 + 2 \rangle$$

$$I_1^v = \langle a,\ b + 1,\ v + 1 \rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 94 representations.

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

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

I. $\boldsymbol{I_1^u = \langle -4.04 \times 10^{126} u^{84} - 1.47 \times 10^{127} u^{83} + \cdots + 7.93 \times 10^{126} b + 7.79 \times 10^{126},\ -6.64 \times 10^{126} u^{84} - 2.59 \times 10^{127} u^{83} + \cdots + 7.93 \times 10^{126} a - 2.36 \times 10^{127},\ u^{85} + 4u^{84} + \cdots + 14u + 2 \rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 0.837711u^{84} + 3.26582u^{83} + \cdots + 23.0946u + 2.97939 \\ 0.509746u^{84} + 1.85431u^{83} + \cdots + 2.63027u - 0.982389 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 1.34746u^{84} + 5.12014u^{83} + \cdots + 25.7249u + 1.99700 \\ 0.509746u^{84} + 1.85431u^{83} + \cdots + 2.63027u - 0.982389 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -1.26472u^{84} - 6.06172u^{83} + \cdots - 91.5000u - 16.8602 \\ 0.598452u^{84} + 2.02176u^{83} + \cdots + 4.76229u - 0.278731 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} 1.72649u^{84} + 6.50029u^{83} + \cdots + 34.3325u + 3.23940 \\ 0.519117u^{84} + 2.00224u^{83} + \cdots + 9.39854u + 0.520508 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -2.50474u^{84} - 10.2416u^{83} + \cdots - 93.6888u - 15.3979 \\ 0.592317u^{84} + 2.10401u^{83} + \cdots + 9.22146u + 0.356710 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -2.36646u^{84} - 9.65905u^{83} + \cdots - 94.7830u - 15.3092 \\ 0.509534u^{84} + 1.79876u^{83} + \cdots + 6.34356u + 0.475093 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0492125u^{84} + 0.616005u^{83} + \cdots + 18.7360u + 3.81121 \\ -0.258472u^{84} - 0.807102u^{83} + \cdots + 0.539727u + 0.813419 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -1.70495u^{84} - 5.18172u^{83} + \cdots + 36.7845u + 15.0874$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_6	$u^{85} + 24u^{84} + \cdots + 97u + 81$
c_2, c_5	$u^{85} + 6u^{84} + \cdots + 23u + 9$
c_3	$27(27u^{85} - 153u^{84} + \cdots - 2.29371 \times 10^{8}u + 3.37805 \times 10^{7})$
c_4	$27(27u^{85} + 288u^{84} + \cdots - 8003245u + 2090863)$
c_7, c_{10}	$u^{85} - 5u^{84} + \cdots + 18u + 3$
c_8, c_9, c_{12}	$u^{85} - 4u^{84} + \cdots + 14u - 2$
c_{11}	$u^{85} - 4u^{84} + \cdots - 33696u + 5184$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$y^{85} + 80y^{84} + \cdots + 824593y - 6561$
c_2, c_5	$y^{85} - 24y^{84} + \cdots + 97y - 81$
c_3	$729(729y^{85} + 35559y^{84} + \cdots - 6.28776 \times 10^{15}y - 1.14112 \times 10^{15})$
c_4	729 $\cdot(729y^{85} - 51192y^{84} + \cdots + 103418130379289y - 4371708084769)$
c_7, c_{10}	$y^{85} - 59y^{84} + \cdots + 966y - 9$
c_8, c_9, c_{12}	$y^{85} + 88y^{84} + \cdots - 52y - 4$
c_{11}	$y^{85} - 38y^{84} + \cdots + 338162688y - 26873856$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.802781 + 0.666760I$ $a = 0.444154 + 0.389043I$ $b = 0.54776 - 1.33558I$	$9.35665 + 6.36583I$	0
$u = -0.802781 - 0.666760I$ $a = 0.444154 - 0.389043I$ $b = 0.54776 + 1.33558I$	$9.35665 - 6.36583I$	0
$u = -0.840661 + 0.625642I$ $a = -0.546357 - 0.360547I$ $b = -0.64122 + 1.40506I$	$8.7128 + 12.6729I$	0
$u = -0.840661 - 0.625642I$ $a = -0.546357 + 0.360547I$ $b = -0.64122 - 1.40506I$	$8.7128 - 12.6729I$	0
$u = -0.933727 + 0.500289I$ $a = -0.710871 + 0.140901I$ $b = 0.067748 + 1.068420I$	$8.75934 - 0.64306I$	0
$u = -0.933727 - 0.500289I$ $a = -0.710871 - 0.140901I$ $b = 0.067748 - 1.068420I$	$8.75934 + 0.64306I$	0
$u = 0.099564 + 1.061390I$ $a = 0.055284 - 0.183938I$ $b = -0.804734 - 0.275552I$	$1.46155 - 0.12863I$	0
$u = 0.099564 - 1.061390I$ $a = 0.055284 + 0.183938I$ $b = -0.804734 + 0.275552I$	$1.46155 + 0.12863I$	0
$u = -0.922718 + 0.564249I$ $a = 0.711488 - 0.159783I$ $b = -0.149669 - 1.177890I$	$8.44674 - 6.85650I$	0
$u = -0.922718 - 0.564249I$ $a = 0.711488 + 0.159783I$ $b = -0.149669 + 1.177890I$	$8.44674 + 6.85650I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.593150 + 0.919610I$ $a = -0.1315520 - 0.0150511I$ $b = 0.268708 - 0.398741I$	$-0.92845 - 1.82818I$	0
$u = 0.593150 - 0.919610I$ $a = -0.1315520 + 0.0150511I$ $b = 0.268708 + 0.398741I$	$-0.92845 + 1.82818I$	0
$u = 0.951786 + 0.650510I$ $a = 0.486994 - 0.119384I$ $b = 0.391324 + 1.066140I$	$3.74898 - 6.20791I$	0
$u = 0.951786 - 0.650510I$ $a = 0.486994 + 0.119384I$ $b = 0.391324 - 1.066140I$	$3.74898 + 6.20791I$	0
$u = 0.925364 + 0.717550I$ $a = -0.440303 + 0.082121I$ $b = -0.238296 - 1.072720I$	$3.93970 - 0.17528I$	0
$u = 0.925364 - 0.717550I$ $a = -0.440303 - 0.082121I$ $b = -0.238296 + 1.072720I$	$3.93970 + 0.17528I$	0
$u = 0.727828 + 0.390455I$ $a = 0.449726 - 0.488595I$ $b = 0.525964 + 0.518969I$	$-2.30865 - 2.94104I$	0
$u = 0.727828 - 0.390455I$ $a = 0.449726 + 0.488595I$ $b = 0.525964 - 0.518969I$	$-2.30865 + 2.94104I$	0
$u = 0.325597 + 1.142700I$ $a = 0.0448468 - 0.0603608I$ $b = 0.789387 + 0.068143I$	$1.61955 - 4.56441I$	0
$u = 0.325597 - 1.142700I$ $a = 0.0448468 + 0.0603608I$ $b = 0.789387 - 0.068143I$	$1.61955 + 4.56441I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.567914 + 0.571899I$ $a = 0.604728 - 0.178179I$ $b = -0.644834 - 0.904739I$	$1.38177 - 3.51715I$	0
$u = -0.567914 - 0.571899I$ $a = 0.604728 + 0.178179I$ $b = -0.644834 + 0.904739I$	$1.38177 + 3.51715I$	0
$u = -0.641156 + 0.471692I$ $a = -0.731557 - 0.940849I$ $b = -0.817818 + 0.973867I$	$1.07426 + 7.71240I$	0
$u = -0.641156 - 0.471692I$ $a = -0.731557 + 0.940849I$ $b = -0.817818 - 0.973867I$	$1.07426 - 7.71240I$	0
$u = -0.460489 + 0.587516I$ $a = 0.051839 + 1.283270I$ $b = 0.590387 - 0.821616I$	$4.12766 + 3.84400I$	$3.48726 - 5.71525I$
$u = -0.460489 - 0.587516I$ $a = 0.051839 - 1.283270I$ $b = 0.590387 + 0.821616I$	$4.12766 - 3.84400I$	$3.48726 + 5.71525I$
$u = 0.167924 + 0.707939I$ $a = -2.22545 + 0.77882I$ $b = 0.356883 - 0.967640I$	$7.83381 + 0.86043I$	$5.30165 + 0.I$
$u = 0.167924 - 0.707939I$ $a = -2.22545 - 0.77882I$ $b = 0.356883 + 0.967640I$	$7.83381 - 0.86043I$	$5.30165 + 0.I$
$u = 0.289362 + 0.616253I$ $a = 2.51494 - 0.45923I$ $b = -0.143489 + 0.984157I$	$7.12241 - 5.37900I$	$3.62062 + 6.29663I$
$u = 0.289362 - 0.616253I$ $a = 2.51494 + 0.45923I$ $b = -0.143489 - 0.984157I$	$7.12241 + 5.37900I$	$3.62062 - 6.29663I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.585513+0.213693I$ $a=-0.594955+0.071624I$ $b=\ 0.580910+0.428079I$	$3.00184-0.43149I$	$1.31859-2.45780I$
$u=-0.585513-0.213693I$ $a=-0.594955-0.071624I$ $b=\ 0.580910-0.428079I$	$3.00184+0.43149I$	$1.31859+2.45780I$
$u=-0.180672+1.380910I$ $a=-1.23127-0.96960I$ $b=\ 0.679911+0.815725I$	$7.94632+2.41671I$	0
$u=-0.180672-1.380910I$ $a=-1.23127+0.96960I$ $b=\ 0.679911-0.815725I$	$7.94632-2.41671I$	0
$u=\ 0.050758+1.403220I$ $a=\ 0.14372-1.51124I$ $b=-0.444961+0.783429I$	$2.89071-0.02350I$	0
$u=\ 0.050758-1.403220I$ $a=\ 0.14372+1.51124I$ $b=-0.444961-0.783429I$	$2.89071+0.02350I$	0
$u=\ 0.027731+1.406400I$ $a=-3.96077+1.85576I$ $b=\ 4.01105-2.17001I$	$5.66382-0.10661I$	0
$u=\ 0.027731-1.406400I$ $a=-3.96077-1.85576I$ $b=\ 4.01105+2.17001I$	$5.66382+0.10661I$	0
$u=\ 0.332326+0.422048I$ $a=\ 0.224263+0.635046I$ $b=-0.268723-0.452263I$	$-0.065957-1.057420I$	$-1.21607+6.29792I$
$u=\ 0.332326-0.422048I$ $a=\ 0.224263-0.635046I$ $b=-0.268723+0.452263I$	$-0.065957+1.057420I$	$-1.21607-6.29792I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.514945 + 0.052028I$ $a = 0.63587 - 1.41127I$ $b = 0.326392 + 0.017339I$	$-1.57079 + 1.46950I$	$-9.77061 - 4.07897I$
$u = 0.514945 - 0.052028I$ $a = 0.63587 + 1.41127I$ $b = 0.326392 - 0.017339I$	$-1.57079 - 1.46950I$	$-9.77061 + 4.07897I$
$u = 0.21356 + 1.47274I$ $a = 0.10247 - 1.46449I$ $b = 0.452591 + 0.938205I$	$3.73750 - 6.24800I$	0
$u = 0.21356 - 1.47274I$ $a = 0.10247 + 1.46449I$ $b = 0.452591 - 0.938205I$	$3.73750 + 6.24800I$	0
$u = -0.06407 + 1.49452I$ $a = 0.51861 - 2.01899I$ $b = -0.171203 + 0.869357I$	$6.16680 + 1.75465I$	0
$u = -0.06407 - 1.49452I$ $a = 0.51861 + 2.01899I$ $b = -0.171203 - 0.869357I$	$6.16680 - 1.75465I$	0
$u = -0.05194 + 1.49750I$ $a = 0.75573 - 1.32650I$ $b = -1.77024 + 1.16248I$	$9.30893 + 4.57642I$	0
$u = -0.05194 - 1.49750I$ $a = 0.75573 + 1.32650I$ $b = -1.77024 - 1.16248I$	$9.30893 - 4.57642I$	0
$u = -0.01980 + 1.50512I$ $a = -0.87950 + 1.48472I$ $b = 1.77677 - 1.49662I$	$9.72935 - 1.45679I$	0
$u = -0.01980 - 1.50512I$ $a = -0.87950 - 1.48472I$ $b = 1.77677 + 1.49662I$	$9.72935 + 1.45679I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.10823 + 1.51105I$ $a = -0.04805 + 1.53309I$ $b = -0.088616 - 1.270120I$	$6.46358 - 2.67802I$	0
$u = 0.10823 - 1.51105I$ $a = -0.04805 - 1.53309I$ $b = -0.088616 + 1.270120I$	$6.46358 + 2.67802I$	0
$u = -0.19892 + 1.50982I$ $a = 0.04052 - 1.96137I$ $b = -0.74982 + 1.25661I$	$7.58189 + 10.73300I$	0
$u = -0.19892 - 1.50982I$ $a = 0.04052 + 1.96137I$ $b = -0.74982 - 1.25661I$	$7.58189 - 10.73300I$	0
$u = -0.09406 + 1.52146I$ $a = 0.60512 + 1.61508I$ $b = -0.19813 - 1.69091I$	$8.39441 - 1.40303I$	0
$u = -0.09406 - 1.52146I$ $a = 0.60512 - 1.61508I$ $b = -0.19813 + 1.69091I$	$8.39441 + 1.40303I$	0
$u = -0.176623 + 0.430115I$ $a = 1.88458 - 0.21008I$ $b = 0.469587 - 1.100450I$	$3.24208 - 1.99205I$	$1.86195 + 5.62347I$
$u = -0.176623 - 0.430115I$ $a = 1.88458 + 0.21008I$ $b = 0.469587 + 1.100450I$	$3.24208 + 1.99205I$	$1.86195 - 5.62347I$
$u = -0.246167 + 0.375896I$ $a = -2.13263 + 0.10858I$ $b = -0.714174 + 0.978375I$	$3.01363 + 3.62679I$	$0.237626 - 0.197969I$
$u = -0.246167 - 0.375896I$ $a = -2.13263 - 0.10858I$ $b = -0.714174 - 0.978375I$	$3.01363 - 3.62679I$	$0.237626 + 0.197969I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.13362 + 1.54561I$ $a = -0.19237 + 1.85508I$ $b = 0.374741 - 1.266880I$	$11.23470 + 5.99704I$	0
$u = -0.13362 - 1.54561I$ $a = -0.19237 - 1.85508I$ $b = 0.374741 + 1.266880I$	$11.23470 - 5.99704I$	0
$u = 0.07557 + 1.55121I$ $a = 0.653295 - 1.130100I$ $b = 0.576031 + 0.900387I$	$14.3920 - 6.6683I$	0
$u = 0.07557 - 1.55121I$ $a = 0.653295 + 1.130100I$ $b = 0.576031 - 0.900387I$	$14.3920 + 6.6683I$	0
$u = 0.440029 + 0.047676I$ $a = 0.040169 - 0.742148I$ $b = 0.00599 - 2.44474I$	$5.42251 + 2.96044I$	$-11.24832 - 0.49298I$
$u = 0.440029 - 0.047676I$ $a = 0.040169 + 0.742148I$ $b = 0.00599 + 2.44474I$	$5.42251 - 2.96044I$	$-11.24832 + 0.49298I$
$u = 0.03178 + 1.56804I$ $a = -0.58241 + 1.33803I$ $b = -0.417899 - 1.034010I$	$15.4735 + 0.2256I$	0
$u = 0.03178 - 1.56804I$ $a = -0.58241 - 1.33803I$ $b = -0.417899 + 1.034010I$	$15.4735 - 0.2256I$	0
$u = -0.257488 + 0.337643I$ $a = -0.37428 - 3.54840I$ $b = -0.584493 + 0.525668I$	$-0.025237 + 0.681729I$	$0.12938 - 10.39624I$
$u = -0.257488 - 0.337643I$ $a = -0.37428 + 3.54840I$ $b = -0.584493 - 0.525668I$	$-0.025237 - 0.681729I$	$0.12938 + 10.39624I$

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.28292 + 1.58422I$ $a = -0.13616 - 1.84338I$ $b = -0.95678 + 1.78318I$	$15.9618 + 16.8256I$	0
$u = -0.28292 - 1.58422I$ $a = -0.13616 + 1.84338I$ $b = -0.95678 - 1.78318I$	$15.9618 - 16.8256I$	0
$u = -0.25995 + 1.59435I$ $a = 0.10124 + 1.81756I$ $b = 0.82984 - 1.77590I$	$16.8148 + 10.3036I$	0
$u = -0.25995 - 1.59435I$ $a = 0.10124 - 1.81756I$ $b = 0.82984 + 1.77590I$	$16.8148 - 10.3036I$	0
$u = -0.34489 + 1.59776I$ $a = -0.440689 - 0.952425I$ $b = -0.512257 + 1.080120I$	$15.6088 + 4.1683I$	0
$u = -0.34489 - 1.59776I$ $a = -0.440689 + 0.952425I$ $b = -0.512257 - 1.080120I$	$15.6088 - 4.1683I$	0
$u = 0.29557 + 1.61174I$ $a = 0.065113 - 1.385510I$ $b = 0.93022 + 1.37397I$	$11.2264 - 10.7656I$	0
$u = 0.29557 - 1.61174I$ $a = 0.065113 + 1.385510I$ $b = 0.93022 - 1.37397I$	$11.2264 + 10.7656I$	0
$u = 0.26193 + 1.62559I$ $a = -0.048549 + 1.391250I$ $b = -0.81923 - 1.46077I$	$11.77100 - 4.49005I$	0
$u = 0.26193 - 1.62559I$ $a = -0.048549 - 1.391250I$ $b = -0.81923 + 1.46077I$	$11.77100 + 4.49005I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.31266 + 1.62469I$ $a = 0.420595 + 1.013950I$ $b = 0.488380 - 1.232340I$	$15.6769 - 2.1737I$	0
$u = -0.31266 - 1.62469I$ $a = 0.420595 - 1.013950I$ $b = 0.488380 + 1.232340I$	$15.6769 + 2.1737I$	0
$u = 0.047792 + 0.283678I$ $a = 0.434605 - 0.380197I$ $b = -0.75550 - 1.74214I$	$0.336343 + 0.330613I$	$14.7201 + 7.4977I$
$u = 0.047792 - 0.283678I$ $a = 0.434605 + 0.380197I$ $b = -0.75550 + 1.74214I$	$0.336343 - 0.330613I$	$14.7201 - 7.4977I$
$u = -0.204107$ $a = -2.83102$ $b = -0.630306$	-1.37360	-7.31630

II. $\boldsymbol{I_2^u = \langle -au + b,\ 9a^3 - 6a^2u + 3a^2 - 6a + 2u - 1,\ u^2 - u + 1\rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} a \\ au \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ u-1 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} au+a \\ au \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -3a^2u+3a^2 \\ -a^2u+2a^2+u \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u \\ u-1 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} u \\ u-2 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} au+a \\ 2au-2a \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} u \\ u-1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 0 \\ -u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -3a^2u+3a^2 \\ 2a^2u+2a^2-u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -17a^2u + 30a^2 - 11au + a + 13u - 19$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^3 - u^2 + 2u - 1)^2$
c_2	$(u^3 + u^2 - 1)^2$
c_3	$27(27u^6 - 27u^5 + 27u^4 - 18u^3 + 15u^2 - 6u + 1)$
c_4	$27(27u^6 - 27u^4 + 6u^2 + 1)$
c_5	$(u^3 - u^2 + 1)^2$
c_6	$(u^3 + u^2 + 2u + 1)^2$
c_7, c_{12}	$(u^2 + u + 1)^3$
c_8, c_9, c_{10}	$(u^2 - u + 1)^3$
c_{11}	u^6

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_6	$(y^3 + 3y^2 + 2y - 1)^2$
c_2, c_5	$(y^3 - y^2 + 2y - 1)^2$
c_3	$729(729y^6 + 729y^5 + 567y^4 + 216y^3 + 63y^2 - 6y + 1)$
c_4	$729(27y^3 - 27y^2 + 6y + 1)^2$
c_7, c_8, c_9 c_{10}, c_{12}	$(y^2 + y + 1)^3$
c_{11}	y^6

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.500000 + 0.866025I$ $a = 0.754678 + 0.124176I$ $b = 0.269799 + 0.715659I$	$3.02413 + 0.79824I$	$-0.040167 - 0.618060I$
$u = 0.500000 + 0.866025I$ $a = -0.754678 + 0.124176I$ $b = -0.484879 - 0.591482I$	$3.02413 - 4.85801I$	$1.23319 + 5.70115I$
$u = 0.500000 + 0.866025I$ $a = 0.328997I$ $b = -0.284920 + 0.164499I$	$-1.11345 - 2.02988I$	$-11.6930 + 11.3714I$
$u = 0.500000 - 0.866025I$ $a = 0.754678 - 0.124176I$ $b = 0.269799 - 0.715659I$	$3.02413 - 0.79824I$	$-0.040167 + 0.618060I$
$u = 0.500000 - 0.866025I$ $a = -0.754678 - 0.124176I$ $b = -0.484879 + 0.591482I$	$3.02413 + 4.85801I$	$1.23319 - 5.70115I$
$u = 0.500000 - 0.866025I$ $a = -0.328997I$ $b = -0.284920 - 0.164499I$	$-1.11345 + 2.02988I$	$-11.6930 - 11.3714I$

III. $I_3^u = \langle b + u + 1,\ 2a - 3u - 2,\ u^2 + 2 \rangle$

(i) Arc colorings

$$a_1 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} \frac{3}{2}u + 1 \\ -u - 1 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ -2 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} \frac{1}{2}u \\ -u - 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} \frac{1}{2}u \\ -1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} u \\ -u \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} \frac{1}{2}u \\ -u - 1 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} -\frac{1}{2}u - 1 \\ 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -\frac{1}{2}u \\ 1 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ -u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_7	$(u-1)^2$
c_3	$u^2 - 2u + 3$
c_4	$u^2 + 2u + 3$
c_5, c_6, c_{10} c_{11}	$(u+1)^2$
c_8, c_9, c_{12}	$u^2 + 2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_5 c_6, c_7, c_{10} c_{11}	$(y-1)^2$
c_3, c_4	y^2+2y+9
c_8, c_9, c_{12}	$(y+2)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 1.414210I$ $a = 1.00000 + 2.12132I$ $b = -1.00000 - 1.41421I$	4.93480	0
$u = -1.414210I$ $a = 1.00000 - 2.12132I$ $b = -1.00000 + 1.41421I$	4.93480	0

IV. $\boldsymbol{I_1^v = \langle a,\ b+1,\ v+1 \rangle}$

(i) Arc colorings

$$a_1 = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

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

$$a_4 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} -2 \\ -1 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -1 \\ 0 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -1 \\ -1 \end{pmatrix}$$

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

$$a_7 = \begin{pmatrix} 2 \\ 1 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 0$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_2, c_3 c_4, c_{10}, c_{11}	$u - 1$
c_5, c_6, c_7	$u + 1$
c_8, c_9, c_{12}	u

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_4, c_5, c_6 c_7, c_{10}, c_{11}	$y - 1$
c_8, c_9, c_{12}	y

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -1.00000$ $a = 0$ $b = -1.00000$	0	0

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^3)(u^3-u^2+2u-1)^2(u^{85}+24u^{84}+\cdots+97u+81)$
c_2	$((u-1)^3)(u^3+u^2-1)^2(u^{85}+6u^{84}+\cdots+23u+9)$
c_3	$729(u-1)(u^2-2u+3)(27u^6-27u^5+\cdots-6u+1)$ $\cdot(27u^{85}-153u^{84}+\cdots-229370509u+33780469)$
c_4	$729(u-1)(u^2+2u+3)(27u^6-27u^4+6u^2+1)$ $\cdot(27u^{85}+288u^{84}+\cdots-8003245u+2090863)$
c_5	$((u+1)^3)(u^3-u^2+1)^2(u^{85}+6u^{84}+\cdots+23u+9)$
c_6	$((u+1)^3)(u^3+u^2+2u+1)^2(u^{85}+24u^{84}+\cdots+97u+81)$
c_7	$((u-1)^2)(u+1)(u^2+u+1)^3(u^{85}-5u^{84}+\cdots+18u+3)$
c_8, c_9	$u(u^2+2)(u^2-u+1)^3(u^{85}-4u^{84}+\cdots+14u-2)$
c_{10}	$(u-1)(u+1)^2(u^2-u+1)^3(u^{85}-5u^{84}+\cdots+18u+3)$
c_{11}	$u^6(u-1)(u+1)^2(u^{85}-4u^{84}+\cdots-33696u+5184)$
c_{12}	$u(u^2+2)(u^2+u+1)^3(u^{85}-4u^{84}+\cdots+14u-2)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_6	$((y-1)^3)(y^3+3y^2+2y-1)^2(y^{85}+80y^{84}+\cdots+824593y-6561)$
c_2, c_5	$((y-1)^3)(y^3-y^2+2y-1)^2(y^{85}-24y^{84}+\cdots+97y-81)$
c_3	$531441(y-1)(y^2+2y+9)$ $\cdot(729y^6+729y^5+567y^4+216y^3+63y^2-6y+1)$ $\cdot(729y^{85}+3.56\times10^4y^{84}+\cdots-6.29\times10^{15}y-1.14\times10^{15})$
c_4	$531441(y-1)(y^2+2y+9)(27y^3-27y^2+6y+1)^2$ $\cdot(729y^{85}-51192y^{84}+\cdots+103418130379289y-4371708084769)$
c_7, c_{10}	$((y-1)^3)(y^2+y+1)^3(y^{85}-59y^{84}+\cdots+966y-9)$
c_8, c_9, c_{12}	$y(y+2)^2(y^2+y+1)^3(y^{85}+88y^{84}+\cdots-52y-4)$
c_{11}	$y^6(y-1)^3(y^{85}-38y^{84}+\cdots+3.38163\times10^8y-2.68739\times10^7)$