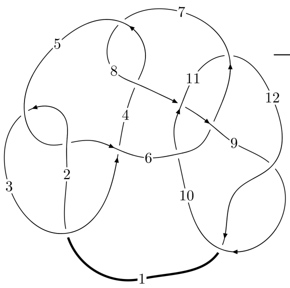
$12n_{0029}$ ($K12n_{0029}$)



A knot diagram[1]

Linearized knot diagam

$\rightarrow\downarrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow\downarrow\rightarrow\uparrow\rightarrow\downarrow\rightarrow$

3 5 6 8 2 9 5 11 12 6 7 10

Solving Sequence

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

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

$$\begin{aligned} I_1^u = \langle & 1.45830 \times 10^{282} u^{73} - 3.06169 \times 10^{282} u^{72} + \cdots + 2.31115 \times 10^{285} b + 2.73476 \times 10^{285}, \\ & 1.92674 \times 10^{282} u^{73} - 5.93184 \times 10^{282} u^{72} + \cdots + 1.84892 \times 10^{285} a - 1.31672 \times 10^{286}, \\ & u^{74} - 2u^{73} + \cdots + 3072u + 1024 \rangle \\ I_2^u = \langle & u^4 - 2u^3 - u^2 + b + 3u,\ -3u^4 + 3u^3 + 7u^2 + a - 5u - 4,\ u^5 - u^4 - 2u^3 + u^2 + u + 1 \rangle \end{aligned}$$

$$\begin{aligned} I_1^v = \langle & a,\ 1728v^9 + 4936v^8 + 9872v^7 - 12908v^6 - 24680v^5 + 34552v^4 + 91527v^3 - 4936v^2 + 3335b + 613, \\ & v^{10} + 3v^9 + 6v^8 - 7v^7 - 16v^6 + 19v^5 + 58v^4 + 2v^3 - 7v^2 + v + 1 \rangle \end{aligned}$$

* 3 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 89 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. $\boldsymbol{I^u_1 = \langle 1.46 \times 10^{282}u^{73} - 3.06 \times 10^{282}u^{72} + \cdots + 2.31 \times 10^{285}b + 2.73 \times 10^{285},\ 1.93 \times 10^{282}u^{73} - 5.93 \times 10^{282}u^{72} + \cdots + 1.85 \times 10^{285}a - 1.32 \times 10^{286},\ u^{74} - 2u^{73} + \cdots + 3072u + 1024\rangle}$

(i) Arc colorings

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

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

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

$$a_{11} = \begin{pmatrix} -0.00104209u^{73} + 0.00320827u^{72} + \cdots + 4.15244u + 7.12158 \\ -0.000630984u^{73} + 0.00132475u^{72} + \cdots - 3.28645u - 1.18329 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.000166407u^{73} - 0.0000584423u^{72} + \cdots - 2.97519u - 1.23275 \\ -0.000372877u^{73} + 0.000687987u^{72} + \cdots - 1.67649u - 0.643683 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -0.00167307u^{73} + 0.00453301u^{72} + \cdots + 0.865989u + 5.93830 \\ -0.000630984u^{73} + 0.00132475u^{72} + \cdots - 3.28645u - 1.18329 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0000529417u^{73} + 0.000274782u^{72} + \cdots + 4.64722u + 1.77074 \\ -0.000269983u^{73} + 0.000677572u^{72} + \cdots - 0.295371u - 0.271861 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.000525755u^{73} - 0.00116278u^{72} + \cdots + 1.81742u - 0.757111 \\ -0.0000354351u^{73} + 0.000122315u^{72} + \cdots + 0.573348u + 0.133403 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} 0.000525755u^{73} - 0.00116278u^{72} + \cdots + 1.81742u - 0.757111 \\ -0.0000344362u^{73} + 0.0000957799u^{72} + \cdots + 0.376807u + 0.247347 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.000150277u^{73} + 0.000195066u^{72} + \cdots - 4.47795u - 1.86965 \\ -0.000203219u^{73} + 0.000469847u^{72} + \cdots + 0.169272u - 0.0989097 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.00137360u^{73} + 0.00403821u^{72} + \cdots - 1.25774u + 5.00923 \\ -0.000533686u^{73} + 0.00107499u^{72} + \cdots - 2.78713u - 1.04233 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.0115164u^{73} + 0.0143583u^{72} + \cdots - 79.5128u - 35.2982$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{74} + 23u^{73} + \cdots - 168u + 1$
c_2, c_5	$u^{74} + 7u^{73} + \cdots + 10u + 1$
c_3	$u^{74} - 7u^{73} + \cdots + 23935148u + 1174793$
c_4, c_7	$u^{74} - 2u^{73} + \cdots + 3072u + 1024$
c_6	$u^{74} - 4u^{73} + \cdots + 3u - 1$
c_8	$u^{74} + 11u^{73} + \cdots + 600u^2 + 32$
c_9, c_{12}	$u^{74} - 8u^{73} + \cdots - 83u - 1$
c_{10}	$u^{74} + 2u^{73} + \cdots + 140788u - 6632$
c_{11}	$u^{74} - 4u^{73} + \cdots + 18563u + 7979$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{74} + 63y^{73} + \cdots - 33884y + 1$
c_2, c_5	$y^{74} + 23y^{73} + \cdots - 168y + 1$
c_3	$y^{74} + 103y^{73} + \cdots - 195612233228368y + 1380138592849$
c_4, c_7	$y^{74} + 50y^{73} + \cdots + 5242880y + 1048576$
c_6	$y^{74} - 20y^{73} + \cdots + y + 1$
c_8	$y^{74} - 27y^{73} + \cdots + 38400y + 1024$
c_9, c_{12}	$y^{74} - 40y^{73} + \cdots - 2497y + 1$
c_{10}	$y^{74} + 78y^{73} + \cdots - 8817552656y + 43983424$
c_{11}	$y^{74} + 46y^{73} + \cdots - 1411728345y + 63664441$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.087690 + 1.069920I$ $a = -1.70851 + 0.71322I$ $b = 0.704260 - 0.483971I$	$0.97521 - 4.62256I$	0
$u = 0.087690 - 1.069920I$ $a = -1.70851 - 0.71322I$ $b = 0.704260 + 0.483971I$	$0.97521 + 4.62256I$	0
$u = 0.384595 + 0.751827I$ $a = 0.59893 + 1.37606I$ $b = -0.298551 + 0.845553I$	$-3.42601 - 3.36523I$	$-11.9863 + 8.0764I$
$u = 0.384595 - 0.751827I$ $a = 0.59893 - 1.37606I$ $b = -0.298551 - 0.845553I$	$-3.42601 + 3.36523I$	$-11.9863 - 8.0764I$
$u = 0.495224 + 0.592497I$ $a = 2.24773 + 1.14650I$ $b = 0.234622 + 0.523186I$	$-3.94950 - 0.19450I$	$-14.2244 + 0.5338I$
$u = 0.495224 - 0.592497I$ $a = 2.24773 - 1.14650I$ $b = 0.234622 - 0.523186I$	$-3.94950 + 0.19450I$	$-14.2244 - 0.5338I$
$u = 1.247790 + 0.119522I$ $a = 0.295580 - 0.114576I$ $b = -0.758529 + 0.268504I$	$3.57080 - 3.55900I$	0
$u = 1.247790 - 0.119522I$ $a = 0.295580 + 0.114576I$ $b = -0.758529 - 0.268504I$	$3.57080 + 3.55900I$	0
$u = -0.590376 + 1.132720I$ $a = -0.567082 + 0.568941I$ $b = 0.416950 + 0.100990I$	$-0.18048 + 2.67430I$	0
$u = -0.590376 - 1.132720I$ $a = -0.567082 - 0.568941I$ $b = 0.416950 - 0.100990I$	$-0.18048 - 2.67430I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.235680 + 0.346795I$ $a = 0.250077 + 0.159968I$ $b = -0.656348 - 0.079553I$	$3.17540 - 2.27063I$	0
$u = -1.235680 - 0.346795I$ $a = 0.250077 - 0.159968I$ $b = -0.656348 + 0.079553I$	$3.17540 + 2.27063I$	0
$u = 0.100478 + 1.284530I$ $a = 1.53887 + 0.10009I$ $b = -0.355439 + 0.084862I$	$1.01094 - 2.94591I$	0
$u = 0.100478 - 1.284530I$ $a = 1.53887 - 0.10009I$ $b = -0.355439 - 0.084862I$	$1.01094 + 2.94591I$	0
$u = 0.228131 + 1.295120I$ $a = -1.027190 - 0.601335I$ $b = 0.757691 + 0.160885I$	$4.23425 + 0.54410I$	0
$u = 0.228131 - 1.295120I$ $a = -1.027190 + 0.601335I$ $b = 0.757691 - 0.160885I$	$4.23425 - 0.54410I$	0
$u = 0.655112 + 0.173687I$ $a = 2.35031 + 3.40118I$ $b = 0.424294 + 0.991928I$	$-1.25518 + 3.58366I$	$-11.16812 - 4.57292I$
$u = 0.655112 - 0.173687I$ $a = 2.35031 - 3.40118I$ $b = 0.424294 - 0.991928I$	$-1.25518 - 3.58366I$	$-11.16812 + 4.57292I$
$u = 0.501730 + 0.448793I$ $a = 0.554379 - 0.053202I$ $b = -0.523151 - 0.840620I$	$-0.76340 + 2.05732I$	$-6.61172 - 3.28073I$
$u = 0.501730 - 0.448793I$ $a = 0.554379 + 0.053202I$ $b = -0.523151 + 0.840620I$	$-0.76340 - 2.05732I$	$-6.61172 + 3.28073I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.429078 + 0.495620I$ $a = \ \ 0.756242 + 0.411909I$ $b = \ \ 0.048182 - 0.906974I$	$-0.75534 + 1.25758I$	$-6.16688 - 4.20297I$
$u = -0.429078 - 0.495620I$ $a = \ \ 0.756242 - 0.411909I$ $b = \ \ 0.048182 + 0.906974I$	$-0.75534 - 1.25758I$	$-6.16688 + 4.20297I$
$u = -0.369003 + 0.540409I$ $a = -7.82001 - 3.97910I$ $b = -0.53917 + 3.82168I$	$-1.96434 + 1.46942I$	$69.4609 + 82.1819I$
$u = -0.369003 - 0.540409I$ $a = -7.82001 + 3.97910I$ $b = -0.53917 - 3.82168I$	$-1.96434 - 1.46942I$	$69.4609 - 82.1819I$
$u = -0.628002 + 0.177531I$ $a = \ \ 2.95922 - 3.34855I$ $b = \ \ 0.457443 - 1.236300I$	$-0.94329 + 1.13464I$	$-11.14223 - 5.11528I$
$u = -0.628002 - 0.177531I$ $a = \ \ 2.95922 + 3.34855I$ $b = \ \ 0.457443 + 1.236300I$	$-0.94329 - 1.13464I$	$-11.14223 + 5.11528I$
$u = -0.142745 + 1.346550I$ $a = \ \ 0.272109 - 0.532528I$ $b = -0.260302 - 1.220450I$	$3.14985 + 1.37670I$	0
$u = -0.142745 - 1.346550I$ $a = \ \ 0.272109 + 0.532528I$ $b = -0.260302 + 1.220450I$	$3.14985 - 1.37670I$	0
$u = \ \ 0.320215 + 1.351930I$ $a = \ \ 0.198192 + 0.598736I$ $b = -0.161270 + 1.198730I$	$2.76643 - 7.39057I$	0
$u = \ \ 0.320215 - 1.351930I$ $a = \ \ 0.198192 - 0.598736I$ $b = -0.161270 - 1.198730I$	$2.76643 + 7.39057I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.173717+0.574494I$ $a=\ \ 1.239130+0.100705I$ $b=-0.321576-1.059120I$	$-0.71671+1.37236I$	$-4.04860-4.25236I$
$u=-0.173717-0.574494I$ $a=\ \ 1.239130-0.100705I$ $b=-0.321576+1.059120I$	$-0.71671-1.37236I$	$-4.04860+4.25236I$
$u=-0.298851+0.519319I$ $a=\ \ 1.328640+0.298136I$ $b=-0.182893-0.326086I$	$-0.31180+1.54577I$	$-2.35841-4.98495I$
$u=-0.298851-0.519319I$ $a=\ \ 1.328640-0.298136I$ $b=-0.182893+0.326086I$	$-0.31180-1.54577I$	$-2.35841+4.98495I$
$u=\ \ 0.490220+0.320949I$ $a=\ \ 0.0858483+0.0914575I$ $b=\ \ 0.568197+1.214540I$	$-6.11124+6.05756I$	$-13.16929+2.49659I$
$u=\ \ 0.490220-0.320949I$ $a=\ \ 0.0858483-0.0914575I$ $b=\ \ 0.568197-1.214540I$	$-6.11124-6.05756I$	$-13.16929-2.49659I$
$u=-0.425333+0.359403I$ $a=\ \ 0.0853519+0.0910101I$ $b=\ \ 0.371695+1.137080I$	$-5.95413+2.77149I$	$-11.1970-11.7984I$
$u=-0.425333-0.359403I$ $a=\ \ 0.0853519-0.0910101I$ $b=\ \ 0.371695-1.137080I$	$-5.95413-2.77149I$	$-11.1970+11.7984I$
$u=-1.44330$ $a=\ \ 0.133015$ $b=\ \ 0.809332$	-3.60099	0
$u=\ \ 0.01717+1.45367I$ $a=-0.539494+0.887846I$ $b=\ \ 0.66032-2.68740I$	$4.88888+2.03616I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.01717 - 1.45367I$ $a = -0.539494 - 0.887846I$ $b = 0.66032 + 2.68740I$	$4.88888 - 2.03616I$	0
$u = -0.20391 + 1.44776I$ $a = -0.773494 - 0.847749I$ $b = 0.54517 + 2.88900I$	$4.71109 + 4.13291I$	0
$u = -0.20391 - 1.44776I$ $a = -0.773494 + 0.847749I$ $b = 0.54517 - 2.88900I$	$4.71109 - 4.13291I$	0
$u = 0.44904 + 1.39545I$ $a = 1.389400 - 0.053483I$ $b = -1.19431 + 1.06464I$	$-1.87183 - 10.09290I$	0
$u = 0.44904 - 1.39545I$ $a = 1.389400 + 0.053483I$ $b = -1.19431 - 1.06464I$	$-1.87183 + 10.09290I$	0
$u = 0.08788 + 1.46777I$ $a = 1.035950 - 0.323500I$ $b = -1.179080 + 0.604061I$	$-0.83764 - 1.21344I$	0
$u = 0.08788 - 1.46777I$ $a = 1.035950 + 0.323500I$ $b = -1.179080 - 0.604061I$	$-0.83764 + 1.21344I$	0
$u = 1.48809 + 0.13110I$ $a = 0.0912489 - 0.0358039I$ $b = 0.598953 - 0.223005I$	$-7.41606 - 4.57419I$	0
$u = 1.48809 - 0.13110I$ $a = 0.0912489 + 0.0358039I$ $b = 0.598953 + 0.223005I$	$-7.41606 + 4.57419I$	0
$u = 0.125495 + 0.432831I$ $a = 7.30187 + 2.79699I$ $b = -1.075840 + 0.578988I$	$-2.18804 + 1.82733I$	$11.01430 - 3.60905I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.125495 - 0.432831I$ $a = 7.30187 - 2.79699I$ $b = -1.075840 - 0.578988I$	$-2.18804 - 1.82733I$	$11.01430 + 3.60905I$
$u = 1.52778 + 0.35064I$ $a = 0.095478 + 0.108395I$ $b = 1.31875 + 0.93719I$	$1.67555 + 9.13934I$	0
$u = 1.52778 - 0.35064I$ $a = 0.095478 - 0.108395I$ $b = 1.31875 - 0.93719I$	$1.67555 - 9.13934I$	0
$u = -1.55967 + 0.19709I$ $a = 0.104540 - 0.110896I$ $b = 1.33678 - 0.74411I$	$2.10183 - 2.80934I$	0
$u = -1.55967 - 0.19709I$ $a = 0.104540 + 0.110896I$ $b = 1.33678 + 0.74411I$	$2.10183 + 2.80934I$	0
$u = -0.27655 + 1.57965I$ $a = 1.126550 + 0.143036I$ $b = -1.37108 - 0.84338I$	$2.84481 + 6.06997I$	0
$u = -0.27655 - 1.57965I$ $a = 1.126550 - 0.143036I$ $b = -1.37108 + 0.84338I$	$2.84481 - 6.06997I$	0
$u = -0.81564 + 1.38136I$ $a = -0.753914 + 0.369227I$ $b = 0.663812 + 0.540105I$	$6.17331 + 9.63827I$	0
$u = -0.81564 - 1.38136I$ $a = -0.753914 - 0.369227I$ $b = 0.663812 - 0.540105I$	$6.17331 - 9.63827I$	0
$u = 0.72899 + 1.43535I$ $a = -0.757398 - 0.390640I$ $b = 0.743568 - 0.424934I$	$7.41718 - 3.39847I$	0

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.72899 - 1.43535I$ $a = -0.757398 + 0.390640I$ $b = 0.743568 + 0.424934I$	$7.41718 + 3.39847I$	0
$u = 0.53611 + 1.52849I$ $a = -1.274840 - 0.153132I$ $b = 1.123730 - 0.679779I$	$8.83947 - 10.02070I$	0
$u = 0.53611 - 1.52849I$ $a = -1.274840 + 0.153132I$ $b = 1.123730 + 0.679779I$	$8.83947 + 10.02070I$	0
$u = -0.39620 + 1.58131I$ $a = -1.232710 + 0.026127I$ $b = 1.138660 + 0.572588I$	$9.56303 + 3.64207I$	0
$u = -0.39620 - 1.58131I$ $a = -1.232710 - 0.026127I$ $b = 1.138660 - 0.572588I$	$9.56303 - 3.64207I$	0
$u = 0.81404 + 1.47762I$ $a = 1.239280 + 0.352565I$ $b = -1.30347 + 1.39965I$	$5.3004 - 17.3091I$	0
$u = 0.81404 - 1.47762I$ $a = 1.239280 - 0.352565I$ $b = -1.30347 - 1.39965I$	$5.3004 + 17.3091I$	0
$u = -0.73726 + 1.55967I$ $a = 1.195100 - 0.255132I$ $b = -1.37771 - 1.32852I$	$6.50731 + 10.89880I$	0
$u = -0.73726 - 1.55967I$ $a = 1.195100 + 0.255132I$ $b = -1.37771 + 1.32852I$	$6.50731 - 10.89880I$	0
$u = -0.272195$ $a = 4.54371$ $b = 0.970995$	-2.30896	-2.48640

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.45730 + 1.67049I$ $a = \quad 0.889473 - 0.300191I$ $b = -1.71368 - 0.14443I$	$8.61435 + 4.58115I$	0
$u = -0.45730 - 1.67049I$ $a = \quad 0.889473 + 0.300191I$ $b = -1.71368 + 0.14443I$	$8.61435 - 4.58115I$	0
$u = \quad 0.31130 + 1.74570I$ $a = \quad 0.886783 + 0.250968I$ $b = -1.73082 - 0.07312I$	$9.18515 + 2.01287I$	0
$u = \quad 0.31130 - 1.74570I$ $a = \quad 0.886783 - 0.250968I$ $b = -1.73082 + 0.07312I$	$9.18515 - 2.01287I$	0

II. $I_2^u =$
$\langle u^4-2u^3-u^2+b+3u,\ -3u^4+3u^3+7u^2+a-5u-4,\ u^5-u^4-2u^3+u^2+u+1\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 3u^4 - 3u^3 - 7u^2 + 5u + 4 \\ -u^4 + 2u^3 + u^2 - 3u \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 2u^4 - u^3 - 6u^2 + 2u + 4 \\ -u^4 + 2u^3 + u^2 - 3u \end{pmatrix}$$
$$a_4 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -u^2 + 1 \\ -u^4 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -u^3 + 2u \\ -u^4 - u^3 + u^2 + 2u + 1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -u^3 + 2u \\ -2u^4 - u^3 + 2u^2 + 3u + 2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -1 \\ -u^2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 2u^4 - u^3 - 6u^2 + 2u + 5 \\ -u^4 + 2u^3 + 2u^2 - 3u \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -24u^4 + 29u^3 + 27u^2 - 44u - 1$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^5 - 3u^4 + 4u^3 - u^2 - u + 1$
c_2	$u^5 - u^4 + 2u^3 - u^2 + u - 1$
c_3, c_4	$u^5 + u^4 - 2u^3 - u^2 + u - 1$
c_5	$u^5 + u^4 + 2u^3 + u^2 + u + 1$
c_6	$u^5 - 5u^4 + 8u^3 - 3u^2 - u - 1$
c_7	$u^5 - u^4 - 2u^3 + u^2 + u + 1$
c_8	u^5
c_9	$(u-1)^5$
c_{10}, c_{11}	$u^5 + u^4 + 3u^3 - 8u^2 + 5u - 1$
c_{12}	$(u+1)^5$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1$
c_2, c_5	$y^5 + 3y^4 + 4y^3 + y^2 - y - 1$
c_3, c_4, c_7	$y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1$
c_6	$y^5 - 9y^4 + 32y^3 - 35y^2 - 5y - 1$
c_8	y^5
c_9, c_{12}	$(y - 1)^5$
c_{10}, c_{11}	$y^5 + 5y^4 + 35y^3 - 32y^2 + 9y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.21774$ $a=-0.454765$ $b=-0.674363$	-4.04602	-12.5230
$u=-0.309916+0.549911I$ $a=\ \ 2.91994+5.58105I$ $b=\ \ 1.29977-2.14694I$	$-1.97403+1.53058I$	$16.1214-37.0026I$
$u=-0.309916-0.549911I$ $a=\ \ 2.91994-5.58105I$ $b=\ \ 1.29977+2.14694I$	$-1.97403-1.53058I$	$16.1214+37.0026I$
$u=\ \ 1.41878+0.21917I$ $a=-0.192553+0.135455I$ $b=-0.462589+0.146410I$	$-7.51750-4.40083I$	$-16.8598-13.4304I$
$u=\ \ 1.41878-0.21917I$ $a=-0.192553-0.135455I$ $b=-0.462589-0.146410I$	$-7.51750+4.40083I$	$-16.8598+13.4304I$

III. $I_1^v = \langle a,\ 1728v^9 + 4936v^8 + \cdots + 3335b + 613,\ v^{10} + 3v^9 + \cdots + v + 1\rangle$

(i) Arc colorings

$$a_5 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ -0.518141v^9 - 1.48006v^8 + \cdots + 1.48006v^2 - 0.183808 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 1 \\ 0.462969v^9 + 1.33373v^8 + \cdots - 1.33373v^2 + 1.81379 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.518141v^9 - 1.48006v^8 + \cdots + 1.48006v^2 - 0.183808 \\ -0.518141v^9 - 1.48006v^8 + \cdots + 1.48006v^2 - 0.183808 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} v \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} -0.462969v^9 - 1.33373v^8 + \cdots + 1.33373v^2 - 0.813793 \\ -1.14783v^9 - 3.29565v^8 + \cdots + 3.29565v^2 - 1.75652 \end{pmatrix}$$
$$a_3 = \begin{pmatrix} 0.0740630v^9 + 0.148126v^8 + \cdots + 3.77811v + 0.424888 \\ 0.147826v^9 + 0.295652v^8 + \cdots + 7v + 0.756522 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.0737631v^9 - 0.277961v^8 + \cdots + 3.77811v + 0.277061 \\ 0.147826v^9 + 0.295652v^8 + \cdots + 7v + 0.756522 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 0.462969v^9 + 1.33373v^8 + \cdots - 1.33373v^2 + 0.813793 \\ 1.14783v^9 + 3.29565v^8 + \cdots - 3.29565v^2 + 1.75652 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.684858v^9 + 1.96192v^8 + \cdots - 1.96192v^2 + 0.942729 \\ 1.14783v^9 + 3.29565v^8 + \cdots - 3.29565v^2 + 1.75652 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{10239}{3335}v^9 + \frac{24678}{3335}v^8 + \frac{44281}{3335}v^7 - \frac{105719}{3335}v^6 - \frac{23431}{667}v^5 + \frac{281061}{3335}v^4 + \frac{471061}{3335}v^3 - \frac{304673}{3335}v^2 - \frac{263}{23}v + \frac{12334}{3335}$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_5	$(y^2 + y + 1)^5$
c_4, c_7	y^{10}
c_6	$(y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)^2$
c_8, c_{11}	$(y^5 + 3y^4 + 4y^3 + y^2 - y - 1)^2$
c_9, c_{10}, c_{12}	$(y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$v = -1.38814 + 0.78973I$ $a = 0$ $b = -0.339110 + 0.822375I$	$-0.32910 - 3.56046I$	$-3.01153 + 6.03927I$
$v = -1.38814 - 0.78973I$ $a = 0$ $b = -0.339110 - 0.822375I$	$-0.32910 + 3.56046I$	$-3.01153 - 6.03927I$
$v = 1.37799 + 0.80730I$ $a = 0$ $b = -0.339110 + 0.822375I$	$-0.329100 + 0.499304I$	$-3.07628 + 2.84945I$
$v = 1.37799 - 0.80730I$ $a = 0$ $b = -0.339110 - 0.822375I$	$-0.329100 - 0.499304I$	$-3.07628 - 2.84945I$
$v = 0.294694 + 0.220725I$ $a = 0$ $b = 0.455697 - 1.200150I$	$-5.87256 - 2.37095I$	$-6.63163 - 6.91428I$
$v = 0.294694 - 0.220725I$ $a = 0$ $b = 0.455697 + 1.200150I$	$-5.87256 + 2.37095I$	$-6.63163 + 6.91428I$
$v = -0.338500 + 0.144851I$ $a = 0$ $b = 0.455697 - 1.200150I$	$-5.87256 - 6.43072I$	$-3.55752 + 12.20067I$
$v = -0.338500 - 0.144851I$ $a = 0$ $b = 0.455697 + 1.200150I$	$-5.87256 + 6.43072I$	$-3.55752 - 12.20067I$
$v = -1.44605 + 2.50463I$ $a = 0$ $b = 0.766826$	$-2.40108 + 2.02988I$	$-9.7230 - 10.6042I$
$v = -1.44605 - 2.50463I$ $a = 0$ $b = 0.766826$	$-2.40108 - 2.02988I$	$-9.7230 + 10.6042I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^2-u+1)^5(u^5-3u^4+4u^3-u^2-u+1)$ $\cdot(u^{74}+23u^{73}+\cdots-168u+1)$
c_2	$((u^2+u+1)^5)(u^5-u^4+\cdots+u-1)(u^{74}+7u^{73}+\cdots+10u+1)$
c_3	$(u^2-u+1)^5(u^5+u^4-2u^3-u^2+u-1)$ $\cdot(u^{74}-7u^{73}+\cdots+23935148u+1174793)$
c_4	$u^{10}(u^5+u^4+\cdots+u-1)(u^{74}-2u^{73}+\cdots+3072u+1024)$
c_5	$((u^2-u+1)^5)(u^5+u^4+\cdots+u+1)(u^{74}+7u^{73}+\cdots+10u+1)$
c_6	$(u^5-5u^4+8u^3-3u^2-u-1)(u^5-3u^4+4u^3-u^2-u+1)^2$ $\cdot(u^{74}-4u^{73}+\cdots+3u-1)$
c_7	$u^{10}(u^5-u^4+\cdots+u+1)(u^{74}-2u^{73}+\cdots+3072u+1024)$
c_8	$u^5(u^5-u^4+\cdots+u-1)^2(u^{74}+11u^{73}+\cdots+600u^2+32)$
c_9	$((u-1)^5)(u^5+u^4+\cdots+u-1)^2(u^{74}-8u^{73}+\cdots-83u-1)$
c_{10}	$(u^5-u^4-2u^3+u^2+u+1)^2(u^5+u^4+3u^3-8u^2+5u-1)$ $\cdot(u^{74}+2u^{73}+\cdots+140788u-6632)$
c_{11}	$(u^5+u^4+2u^3+u^2+u+1)^2(u^5+u^4+3u^3-8u^2+5u-1)$ $\cdot(u^{74}-4u^{73}+\cdots+18563u+7979)$
c_{12}	$((u+1)^5)(u^5-u^4+\cdots+u+1)^2(u^{74}-8u^{73}+\cdots-83u-1)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^2+y+1)^5(y^5-y^4+8y^3-3y^2+3y-1)$ $\cdot\,(y^{74}+63y^{73}+\cdots-33884y+1)$
c_2, c_5	$(y^2+y+1)^5(y^5+3y^4+4y^3+y^2-y-1)$ $\cdot\,(y^{74}+23y^{73}+\cdots-168y+1)$
c_3	$(y^2+y+1)^5(y^5-5y^4+8y^3-3y^2-y-1)$ $\cdot\,(y^{74}+103y^{73}+\cdots-195612233228368y+1380138592849)$
c_4, c_7	$y^{10}(y^5-5y^4+8y^3-3y^2-y-1)$ $\cdot\,(y^{74}+50y^{73}+\cdots+5242880y+1048576)$
c_6	$(y^5-9y^4+32y^3-35y^2-5y-1)(y^5-y^4+8y^3-3y^2+3y-1)^2$ $\cdot\,(y^{74}-20y^{73}+\cdots+y+1)$
c_8	$y^5(y^5+3y^4+\cdots-y-1)^2(y^{74}-27y^{73}+\cdots+38400y+1024)$
c_9, c_{12}	$(y-1)^5(y^5-5y^4+8y^3-3y^2-y-1)^2$ $\cdot\,(y^{74}-40y^{73}+\cdots-2497y+1)$
c_{10}	$(y^5-5y^4+8y^3-3y^2-y-1)^2(y^5+5y^4+35y^3-32y^2+9y-1)$ $\cdot\,(y^{74}+78y^{73}+\cdots-8817552656y+43983424)$
c_{11}	$(y^5+3y^4+4y^3+y^2-y-1)^2(y^5+5y^4+35y^3-32y^2+9y-1)$ $\cdot\,(y^{74}+46y^{73}+\cdots-1411728345y+63664441)$