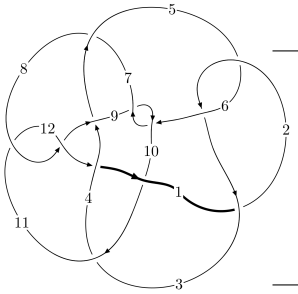
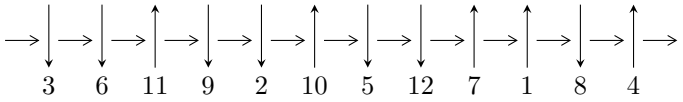
$12a_{0475}$ $(K12a_{0475})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle 1.11285 \times 10^{886} u^{164} - 3.44078 \times 10^{886} u^{163} + \cdots + 2.18377 \times 10^{886} b - 6.10321 \times 10^{889},$$
$$2.17789 \times 10^{889} u^{164} - 6.46304 \times 10^{889} u^{163} + \cdots + 5.77716 \times 10^{889} a - 9.99945 \times 10^{892},$$
$$u^{165} - 4u^{164} + \cdots - 92466u + 5291 \rangle$$

$$I_2^u = \langle 1.21748 \times 10^{26} u^{32} - 5.54627 \times 10^{26} u^{31} + \cdots + 2.64218 \times 10^{26} b + 3.56406 \times 10^{26},$$
$$1.91198 \times 10^{27} u^{32} - 8.59389 \times 10^{27} u^{31} + \cdots + 7.92654 \times 10^{26} a - 1.02616 \times 10^{28},\ u^{33} - 4u^{32} + \cdots + u - 3 \rangle$$

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

$$I_4^u = \langle 2b - 3a - 2,\ a^2 + 2,\ u + 1 \rangle$$

$$I_5^u = \langle b,\ a + 1,\ u - 1 \rangle$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 203 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. $\boldsymbol{I_1^u = \langle 1.11 \times 10^{886} u^{164} - 3.44 \times 10^{886} u^{163} + \cdots + 2.18 \times 10^{886} b - 6.10 \times 10^{889},\ 2.18 \times 10^{889} u^{164} - 6.46 \times 10^{889} u^{163} + \cdots + 5.78 \times 10^{889} a - 1.00 \times 10^{893},\ u^{165} - 4u^{164} + \cdots - 92466u + 5291 \rangle}$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} -0.376983u^{164} + 1.11872u^{163} + \cdots - 28825.3u + 1730.86 \\ -0.509600u^{164} + 1.57562u^{163} + \cdots - 46058.6u + 2794.81 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -0.245282u^{164} + 0.714234u^{163} + \cdots - 16760.6u + 995.355 \\ -0.396999u^{164} + 1.22308u^{163} + \cdots - 35445.4u + 2147.63 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -0.437933u^{164} + 1.40631u^{163} + \cdots - 42794.0u + 2610.44 \\ -0.302392u^{164} + 0.991408u^{163} + \cdots - 31579.1u + 1932.62 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.196129u^{164} - 0.649218u^{163} + \cdots + 22352.2u - 1359.29 \\ 0.145758u^{164} - 0.521515u^{163} + \cdots + 20402.8u - 1262.91 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -0.349509u^{164} + 0.998201u^{163} + \cdots - 22723.8u + 1341.57 \\ -0.482126u^{164} + 1.45509u^{163} + \cdots - 39957.1u + 2405.52 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.0587150u^{164} + 0.149057u^{163} + \cdots - 794.726u + 25.6789 \\ -0.0254560u^{164} + 0.118769u^{163} + \cdots - 5333.39u + 339.046 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.0812809u^{164} - 0.202180u^{163} + \cdots + 1666.04u - 68.9146 \\ 0.180251u^{164} - 0.493538u^{163} + \cdots + 10195.9u - 586.870 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.0206187u^{164} + 0.0815913u^{163} + \cdots - 4604.61u + 297.410 \\ -0.159919u^{164} + 0.467206u^{163} + \cdots - 12375.5u + 739.339 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.660587u^{164} - 1.95887u^{163} + \cdots + 50154.9u - 3011.11$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{165} + 73u^{164} + \cdots + 5492581u + 346921$
c_2, c_5	$u^{165} + 5u^{164} + \cdots - 2107u + 589$
c_3	$2(2u^{165} - 6u^{164} + \cdots - 6475u + 1861)$
c_4	$2(2u^{165} + 4u^{164} + \cdots - 1.28570 \times 10^8 u - 1.40072 \times 10^8)$
c_6, c_9	$u^{165} + 11u^{164} + \cdots + 593536u + 54052$
c_7	$u^{165} - 11u^{164} + \cdots - 13275136u + 1499648$
c_8, c_{11}	$u^{165} + 4u^{164} + \cdots - 92466u - 5291$
c_{10}	$u^{165} + 18u^{164} + \cdots - 1283584u - 111872$
c_{12}	$u^{165} + 16u^{164} + \cdots + 1428492u + 35066$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{165} + 47y^{164} + \cdots + 929433493849y - 120354180241$
c_2, c_5	$y^{165} - 73y^{164} + \cdots + 5492581y - 346921$
c_3	$4(4y^{165} - 120y^{164} + \cdots + 2.97286 \times 10^7 y - 3463321)$
c_4	$4(4y^{165} - 228y^{164} + \cdots + 1.18967 \times 10^{18} y - 1.96202 \times 10^{16})$
c_6, c_9	$y^{165} + 125y^{164} + \cdots + 44245013584y - 2921618704$
c_7	$y^{165} - 25y^{164} + \cdots + 95755580735488y - 2248944123904$
c_8, c_{11}	$y^{165} - 98y^{164} + \cdots + 2317734584y - 27994681$
c_{10}	$y^{165} + 16y^{164} + \cdots - 906086514688y - 12515344384$
c_{12}	$y^{165} + 50y^{164} + \cdots + 436180962572y - 1229624356$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.905625+0.395022I$ $a=-1.356160-0.178801I$ $b=-0.500288+0.541412I$	$1.76132+6.82155I$	0
$u=-0.905625-0.395022I$ $a=-1.356160+0.178801I$ $b=-0.500288-0.541412I$	$1.76132-6.82155I$	0
$u=0.979945+0.253064I$ $a=2.14093-0.15484I$ $b=1.245890+0.373436I$	$-2.68322-10.66630I$	0
$u=0.979945-0.253064I$ $a=2.14093+0.15484I$ $b=1.245890-0.373436I$	$-2.68322+10.66630I$	0
$u=-1.010130+0.104708I$ $a=0.66284-1.49523I$ $b=-0.67789-2.01547I$	$-7.16497+2.22800I$	0
$u=-1.010130-0.104708I$ $a=0.66284+1.49523I$ $b=-0.67789+2.01547I$	$-7.16497-2.22800I$	0
$u=-0.911483+0.450030I$ $a=0.43769-1.68406I$ $b=0.43601-1.82372I$	$-4.66672-1.50795I$	0
$u=-0.911483-0.450030I$ $a=0.43769+1.68406I$ $b=0.43601+1.82372I$	$-4.66672+1.50795I$	0
$u=0.949136+0.247064I$ $a=-1.98722+0.29565I$ $b=-0.987252-0.036458I$	$-0.24597-4.87496I$	0
$u=0.949136-0.247064I$ $a=-1.98722-0.29565I$ $b=-0.987252+0.036458I$	$-0.24597+4.87496I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.956326+0.354024I$ $a=0.472835+0.991788I$ $b=0.96915+2.16384I$	$0.39699+5.70050I$	0
$u=-0.956326-0.354024I$ $a=0.472835-0.991788I$ $b=0.96915-2.16384I$	$0.39699-5.70050I$	0
$u=0.997397+0.222897I$ $a=0.045810-0.837141I$ $b=1.30671-2.18702I$	$0.02937-6.00270I$	0
$u=0.997397-0.222897I$ $a=0.045810+0.837141I$ $b=1.30671+2.18702I$	$0.02937+6.00270I$	0
$u=1.029100+0.039524I$ $a=-0.152827-0.504647I$ $b=1.17849-2.45752I$	$-3.31303+0.23435I$	0
$u=1.029100-0.039524I$ $a=-0.152827+0.504647I$ $b=1.17849+2.45752I$	$-3.31303-0.23435I$	0
$u=0.056114+0.961060I$ $a=0.004362+0.793680I$ $b=0.522822-0.084660I$	$0.53874-4.38609I$	0
$u=0.056114-0.961060I$ $a=0.004362-0.793680I$ $b=0.522822+0.084660I$	$0.53874+4.38609I$	0
$u=0.265842+0.916273I$ $a=0.090527+0.910352I$ $b=0.219918-0.118177I$	$0.1210590-0.0627933I$	0
$u=0.265842-0.916273I$ $a=0.090527-0.910352I$ $b=0.219918+0.118177I$	$0.1210590+0.0627933I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.928790 + 0.214195I$ $a = -0.166509 + 0.819530I$ $b = -1.24767 + 2.01704I$	$1.59672 - 0.72836I$	0
$u = 0.928790 - 0.214195I$ $a = -0.166509 - 0.819530I$ $b = -1.24767 - 2.01704I$	$1.59672 + 0.72836I$	0
$u = 0.208224 + 0.928754I$ $a = -0.939974 - 0.108861I$ $b = 0.032619 - 0.688229I$	$-1.44989 - 2.06089I$	0
$u = 0.208224 - 0.928754I$ $a = -0.939974 + 0.108861I$ $b = 0.032619 + 0.688229I$	$-1.44989 + 2.06089I$	0
$u = 0.099343 + 0.945992I$ $a = 1.211790 - 0.585575I$ $b = 0.159309 + 0.050813I$	$-7.38673 + 5.98012I$	0
$u = 0.099343 - 0.945992I$ $a = 1.211790 + 0.585575I$ $b = 0.159309 - 0.050813I$	$-7.38673 - 5.98012I$	0
$u = -1.004120 + 0.343761I$ $a = -0.415362 - 0.862654I$ $b = -1.09118 - 2.32631I$	$-2.25182 + 11.57660I$	0
$u = -1.004120 - 0.343761I$ $a = -0.415362 + 0.862654I$ $b = -1.09118 + 2.32631I$	$-2.25182 - 11.57660I$	0
$u = -0.543395 + 0.919447I$ $a = -0.227727 + 0.555914I$ $b = -0.439377 - 0.320989I$	$0.479910 + 0.205738I$	0
$u = -0.543395 - 0.919447I$ $a = -0.227727 - 0.555914I$ $b = -0.439377 + 0.320989I$	$0.479910 - 0.205738I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.921973+0.064761I$ $a=-0.58718+1.64883I$ $b=\ \ 0.75741+1.83648I$	$-6.76898-1.45593I$	0
$u=-0.921973-0.064761I$ $a=-0.58718-1.64883I$ $b=\ \ 0.75741-1.83648I$	$-6.76898+1.45593I$	0
$u=\ \ 0.058757+1.081710I$ $a=-0.661431-0.299147I$ $b=\ \ 0.126078-0.124589I$	$-0.89907-2.39252I$	0
$u=\ \ 0.058757-1.081710I$ $a=-0.661431+0.299147I$ $b=\ \ 0.126078+0.124589I$	$-0.89907+2.39252I$	0
$u=\ \ 0.879166+0.214573I$ $a=\ \ 2.19850-1.13943I$ $b=\ \ 1.69238-1.06824I$	$-6.36992-1.10734I$	0
$u=\ \ 0.879166-0.214573I$ $a=\ \ 2.19850+1.13943I$ $b=\ \ 1.69238+1.06824I$	$-6.36992+1.10734I$	0
$u=\ \ 1.057980+0.337150I$ $a=\ \ 0.94946-1.39230I$ $b=\ \ 0.50194-2.07114I$	$-6.46535-0.46060I$	0
$u=\ \ 1.057980-0.337150I$ $a=\ \ 0.94946+1.39230I$ $b=\ \ 0.50194+2.07114I$	$-6.46535+0.46060I$	0
$u=\ \ 0.458763+1.011900I$ $a=\ \ 0.901403+0.412848I$ $b=-0.384411+0.936939I$	$-3.08963-6.66268I$	0
$u=\ \ 0.458763-1.011900I$ $a=\ \ 0.901403-0.412848I$ $b=-0.384411-0.936939I$	$-3.08963+6.66268I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.830270+0.293600I$ $a=-1.142810-0.693487I$ $b=-0.47384-1.88262I$	$-5.83699+1.41896I$	0
$u=-0.830270-0.293600I$ $a=-1.142810+0.693487I$ $b=-0.47384+1.88262I$	$-5.83699-1.41896I$	0
$u=-1.092040+0.250124I$ $a=-0.53036-1.35874I$ $b=-0.65812-2.06798I$	$-4.49963+0.97465I$	0
$u=-1.092040-0.250124I$ $a=-0.53036+1.35874I$ $b=-0.65812+2.06798I$	$-4.49963-0.97465I$	0
$u=1.112570+0.146778I$ $a=0.086327+0.326728I$ $b=-0.72273+1.56197I$	$-3.30358+0.53754I$	0
$u=1.112570-0.146778I$ $a=0.086327-0.326728I$ $b=-0.72273-1.56197I$	$-3.30358-0.53754I$	0
$u=-0.790955+0.377288I$ $a=1.51363+0.25917I$ $b=0.477732-0.416986I$	$3.18590+1.28226I$	0
$u=-0.790955-0.377288I$ $a=1.51363-0.25917I$ $b=0.477732+0.416986I$	$3.18590-1.28226I$	0
$u=0.751764+0.835486I$ $a=0.106249-0.125011I$ $b=0.452743-0.287726I$	$-0.70273-1.40924I$	0
$u=0.751764-0.835486I$ $a=0.106249+0.125011I$ $b=0.452743+0.287726I$	$-0.70273+1.40924I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 0.228998 + 1.105140I$ $a = -1.029760 + 0.398436I$ $b = -0.127356 - 0.341013I$	$-0.69256 + 8.20346I$	0
$u = \quad 0.228998 - 1.105140I$ $a = -1.029760 - 0.398436I$ $b = -0.127356 + 0.341013I$	$-0.69256 - 8.20346I$	0
$u = -0.867320$ $a = -1.90161$ $b = -1.09360$	-2.84073	0
$u = \quad 0.406558 + 0.763432I$ $a = -0.057417 - 1.060420I$ $b = -0.1342720 - 0.0332840I$	$0.00310 - 4.02060I$	0
$u = \quad 0.406558 - 0.763432I$ $a = -0.057417 + 1.060420I$ $b = -0.1342720 + 0.0332840I$	$0.00310 + 4.02060I$	0
$u = -0.975283 + 0.581760I$ $a = -1.09940 + 1.14684I$ $b = -0.99216 + 1.59918I$	$-5.06065 + 5.72523I$	0
$u = -0.975283 - 0.581760I$ $a = -1.09940 - 1.14684I$ $b = -0.99216 - 1.59918I$	$-5.06065 - 5.72523I$	0
$u = -1.135730 + 0.035452I$ $a = \quad 0.609597 - 1.261730I$ $b = -0.29117 - 2.00297I$	$-6.86660 - 2.87605I$	0
$u = -1.135730 - 0.035452I$ $a = \quad 0.609597 + 1.261730I$ $b = -0.29117 + 2.00297I$	$-6.86660 + 2.87605I$	0
$u = -0.024095 + 0.861263I$ $a = \quad 0.069793 - 0.747455I$ $b = -0.602458 - 0.116725I$	$0.940791 - 0.237333I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.024095-0.861263I$ $a=\ \ 0.069793+0.747455I$ $b=-0.602458+0.116725I$	$0.940791+0.237333I$	0
$u=-0.298727+1.120920I$ $a=\ \ 0.850074+0.284549I$ $b=-0.098946-0.430575I$	$3.31062-2.35546I$	0
$u=-0.298727-1.120920I$ $a=\ \ 0.850074-0.284549I$ $b=-0.098946+0.430575I$	$3.31062+2.35546I$	0
$u=-0.804266+0.838329I$ $a=\ \ 0.014358-0.556604I$ $b=\ \ 0.483803+0.156529I$	$-0.26591+6.01439I$	0
$u=-0.804266-0.838329I$ $a=\ \ 0.014358+0.556604I$ $b=\ \ 0.483803-0.156529I$	$-0.26591-6.01439I$	0
$u=-1.160280+0.071947I$ $a=-0.382685-1.121420I$ $b=\ \ 0.30068-1.66006I$	$-5.77557-1.21497I$	0
$u=-1.160280-0.071947I$ $a=-0.382685+1.121420I$ $b=\ \ 0.30068+1.66006I$	$-5.77557+1.21497I$	0
$u=\ \ 0.993491+0.613036I$ $a=-0.053013+0.207665I$ $b=-0.676586+0.767305I$	$-1.88344-5.23161I$	0
$u=\ \ 0.993491-0.613036I$ $a=-0.053013-0.207665I$ $b=-0.676586-0.767305I$	$-1.88344+5.23161I$	0
$u=\ \ 0.806218+0.186328I$ $a=-1.48357-0.17893I$ $b=\ \ 0.316977-0.132627I$	$2.03513-1.28246I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.806218 - 0.186328I$ $a = -1.48357 + 0.17893I$ $b = 0.316977 + 0.132627I$	$2.03513 + 1.28246I$	0
$u = 0.181258 + 1.161330I$ $a = 0.966257 - 0.450421I$ $b = 0.026849 + 0.353142I$	$-2.5882 + 14.0878I$	0
$u = 0.181258 - 1.161330I$ $a = 0.966257 + 0.450421I$ $b = 0.026849 - 0.353142I$	$-2.5882 - 14.0878I$	0
$u = -0.700839 + 0.404790I$ $a = 0.054640 + 1.215590I$ $b = 0.83768 + 1.41021I$	$3.40890 + 2.17216I$	0
$u = -0.700839 - 0.404790I$ $a = 0.054640 - 1.215590I$ $b = 0.83768 - 1.41021I$	$3.40890 - 2.17216I$	0
$u = 1.179340 + 0.215040I$ $a = 0.46961 - 1.83928I$ $b = 0.95078 - 2.41449I$	$-9.46194 - 1.63399I$	0
$u = 1.179340 - 0.215040I$ $a = 0.46961 + 1.83928I$ $b = 0.95078 + 2.41449I$	$-9.46194 + 1.63399I$	0
$u = 0.378157 + 0.688670I$ $a = -1.64772 + 0.16779I$ $b = -0.746451 - 0.075755I$	$-1.10643 + 3.08168I$	0
$u = 0.378157 - 0.688670I$ $a = -1.64772 - 0.16779I$ $b = -0.746451 + 0.075755I$	$-1.10643 - 3.08168I$	0
$u = 1.093150 + 0.546626I$ $a = -0.12095 + 1.69603I$ $b = -0.23509 + 2.34390I$	$-3.19196 - 7.84564I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.093150 - 0.546626I$ $a = -0.12095 - 1.69603I$ $b = -0.23509 - 2.34390I$	$-3.19196 + 7.84564I$	0
$u = -1.128490 + 0.473924I$ $a = 0.262969 + 1.304190I$ $b = 0.61424 + 2.02554I$	$-1.21383 + 5.54894I$	0
$u = -1.128490 - 0.473924I$ $a = 0.262969 - 1.304190I$ $b = 0.61424 - 2.02554I$	$-1.21383 - 5.54894I$	0
$u = -1.187050 + 0.303700I$ $a = 0.166697 + 0.629003I$ $b = -1.19563 + 1.36882I$	$-9.82340 + 2.80556I$	0
$u = -1.187050 - 0.303700I$ $a = 0.166697 - 0.629003I$ $b = -1.19563 - 1.36882I$	$-9.82340 - 2.80556I$	0
$u = 1.206120 + 0.279453I$ $a = 0.129864 - 0.613403I$ $b = -0.48678 - 1.33134I$	$-2.67844 - 1.25468I$	0
$u = 1.206120 - 0.279453I$ $a = 0.129864 + 0.613403I$ $b = -0.48678 + 1.33134I$	$-2.67844 + 1.25468I$	0
$u = -0.235723 + 1.225790I$ $a = -0.788767 - 0.267827I$ $b = 0.275627 + 0.396488I$	$2.18155 - 7.39945I$	0
$u = -0.235723 - 1.225790I$ $a = -0.788767 + 0.267827I$ $b = 0.275627 - 0.396488I$	$2.18155 + 7.39945I$	0
$u = 0.693656 + 0.262829I$ $a = -0.90550 + 1.22346I$ $b = -1.41372 + 1.35496I$	$0.48947 + 2.43883I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.693656 - 0.262829I$ $a = -0.90550 - 1.22346I$ $b = -1.41372 - 1.35496I$	$0.48947 - 2.43883I$	0
$u = -0.544656 + 0.493674I$ $a = 0.097345 - 1.142150I$ $b = -0.851814 - 1.055840I$	$2.71700 - 3.14847I$	0
$u = -0.544656 - 0.493674I$ $a = 0.097345 + 1.142150I$ $b = -0.851814 + 1.055840I$	$2.71700 + 3.14847I$	0
$u = 0.524400 + 0.509061I$ $a = 0.0780599 - 0.0652838I$ $b = -0.037059 - 0.599061I$	$-0.34407 - 1.50763I$	0
$u = 0.524400 - 0.509061I$ $a = 0.0780599 + 0.0652838I$ $b = -0.037059 + 0.599061I$	$-0.34407 + 1.50763I$	0
$u = -0.568060 + 0.445141I$ $a = 1.78884 + 0.51032I$ $b = 0.154856 + 0.268846I$	$1.52963 - 2.30175I$	0
$u = -0.568060 - 0.445141I$ $a = 1.78884 - 0.51032I$ $b = 0.154856 - 0.268846I$	$1.52963 + 2.30175I$	0
$u = 0.700651 + 0.160361I$ $a = 1.54258 + 0.48246I$ $b = -0.524967 + 0.276742I$	$1.02945 + 4.00940I$	0
$u = 0.700651 - 0.160361I$ $a = 1.54258 - 0.48246I$ $b = -0.524967 - 0.276742I$	$1.02945 - 4.00940I$	0
$u = 0.636411 + 0.301996I$ $a = 0.78301 - 1.66688I$ $b = 1.51335 - 1.31208I$	$-1.70707 + 8.11526I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.636411 - 0.301996I$ $a = 0.78301 + 1.66688I$ $b = 1.51335 + 1.31208I$	$-1.70707 - 8.11526I$	0
$u = -0.240820 + 0.645491I$ $a = 1.183670 + 0.756445I$ $b = 0.317700 - 0.173341I$	$1.34841 - 1.24787I$	0
$u = -0.240820 - 0.645491I$ $a = 1.183670 - 0.756445I$ $b = 0.317700 + 0.173341I$	$1.34841 + 1.24787I$	0
$u = 1.132990 + 0.663936I$ $a = 0.052868 - 0.824855I$ $b = 0.168209 - 1.017740I$	$-0.483633 - 1.323650I$	0
$u = 1.132990 - 0.663936I$ $a = 0.052868 + 0.824855I$ $b = 0.168209 + 1.017740I$	$-0.483633 + 1.323650I$	0
$u = -1.270030 + 0.401139I$ $a = -0.200188 - 0.700116I$ $b = 0.52677 - 1.46926I$	$-5.91221 + 6.44950I$	0
$u = -1.270030 - 0.401139I$ $a = -0.200188 + 0.700116I$ $b = 0.52677 + 1.46926I$	$-5.91221 - 6.44950I$	0
$u = 0.456706 + 1.252420I$ $a = -0.272067 + 0.021591I$ $b = -0.320455 - 0.282464I$	$1.92515 - 0.33419I$	0
$u = 0.456706 - 1.252420I$ $a = -0.272067 - 0.021591I$ $b = -0.320455 + 0.282464I$	$1.92515 + 0.33419I$	0
$u = -0.481239 + 0.443674I$ $a = -1.91723 - 0.63238I$ $b = 0.207789 - 0.246850I$	$-0.74504 - 8.24884I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.481239-0.443674I$ $a=-1.91723+0.63238I$ $b=\ \ 0.207789+0.246850I$	$-0.74504+8.24884I$	0
$u=\ \ 0.597895+1.211770I$ $a=\ \ 0.247324-0.057864I$ $b=\ \ 0.426965+0.245472I$	$1.42930-5.31281I$	0
$u=\ \ 0.597895-1.211770I$ $a=\ \ 0.247324+0.057864I$ $b=\ \ 0.426965-0.245472I$	$1.42930+5.31281I$	0
$u=\ \ 1.262320+0.537583I$ $a=\ \ 0.225099-1.289860I$ $b=\ \ 0.49930-2.31043I$	$-10.9205-11.3051I$	0
$u=\ \ 1.262320-0.537583I$ $a=\ \ 0.225099+1.289860I$ $b=\ \ 0.49930+2.31043I$	$-10.9205+11.3051I$	0
$u=\ \ 1.334510+0.345102I$ $a=-0.325108+1.156520I$ $b=-0.84351+1.82687I$	$-5.32783-4.17784I$	0
$u=\ \ 1.334510-0.345102I$ $a=-0.325108-1.156520I$ $b=-0.84351-1.82687I$	$-5.32783+4.17784I$	0
$u=-1.338460+0.347423I$ $a=\ \ 0.136708+0.724965I$ $b=-0.61757+1.93275I$	$-8.60928+10.86600I$	0
$u=-1.338460-0.347423I$ $a=\ \ 0.136708-0.724965I$ $b=-0.61757-1.93275I$	$-8.60928-10.86600I$	0
$u=-1.333190+0.416625I$ $a=-0.229017+0.749046I$ $b=-0.63725+1.41211I$	$-11.86490-1.14533I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.333190-0.416625I$ $a=-0.229017-0.749046I$ $b=-0.63725-1.41211I$	$-11.86490+1.14533I$	0
$u=-1.339290+0.409077I$ $a=-0.446188-1.009600I$ $b=-0.77439-1.83612I$	$-5.08147+8.17449I$	0
$u=-1.339290-0.409077I$ $a=-0.446188+1.009600I$ $b=-0.77439+1.83612I$	$-5.08147-8.17449I$	0
$u=1.379320+0.244135I$ $a=0.605847-1.133560I$ $b=1.12506-1.81315I$	$-7.25376-8.97708I$	0
$u=1.379320-0.244135I$ $a=0.605847+1.133560I$ $b=1.12506+1.81315I$	$-7.25376+8.97708I$	0
$u=1.134530+0.828720I$ $a=0.498053+0.830201I$ $b=-0.54111+1.86228I$	$-5.37571-1.93557I$	0
$u=1.134530-0.828720I$ $a=0.498053-0.830201I$ $b=-0.54111-1.86228I$	$-5.37571+1.93557I$	0
$u=1.400010+0.144057I$ $a=-0.021464+0.519835I$ $b=0.66538+1.67640I$	$-4.56498+2.42568I$	0
$u=1.400010-0.144057I$ $a=-0.021464-0.519835I$ $b=0.66538-1.67640I$	$-4.56498-2.42568I$	0
$u=-1.27506+0.61630I$ $a=0.077120+1.078610I$ $b=0.63547+2.09079I$	$0.13415+8.50566I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.27506-0.61630I$ $a=\ \ 0.077120-1.078610I$ $b=\ \ 0.63547-2.09079I$	$0.13415-8.50566I$	0
$u=-1.33545+0.49474I$ $a=-0.225704-0.940104I$ $b=-0.39277-1.92800I$	$-5.24644+7.82970I$	0
$u=-1.33545-0.49474I$ $a=-0.225704+0.940104I$ $b=-0.39277+1.92800I$	$-5.24644-7.82970I$	0
$u=\ \ 1.23878+0.70712I$ $a=-0.002016+0.772581I$ $b=-0.231001+1.123390I$	$-0.71231-6.59785I$	0
$u=\ \ 1.23878-0.70712I$ $a=-0.002016-0.772581I$ $b=-0.231001-1.123390I$	$-0.71231+6.59785I$	0
$u=\ \ 1.29198+0.61664I$ $a=-0.142721+1.223130I$ $b=-0.63621+2.19212I$	$-4.0482-14.3233I$	0
$u=\ \ 1.29198-0.61664I$ $a=-0.142721-1.223130I$ $b=-0.63621-2.19212I$	$-4.0482+14.3233I$	0
$u=\ \ 1.33560+0.52171I$ $a=\ \ 0.023588+0.909211I$ $b=-0.40425+1.75079I$	$-5.03338-3.62537I$	0
$u=\ \ 1.33560-0.52171I$ $a=\ \ 0.023588-0.909211I$ $b=-0.40425-1.75079I$	$-5.03338+3.62537I$	0
$u=-1.42498+0.24937I$ $a=-0.009391-0.653150I$ $b=\ \ 0.536101-1.279930I$	$-6.59876-3.33600I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.42498-0.24937I$ $a=-0.009391+0.653150I$ $b=\ \ 0.536101+1.279930I$	$-6.59876+3.33600I$	0
$u=\ \ 1.32524+0.61562I$ $a=\ \ 0.160684-1.194010I$ $b=\ \ 0.70657-2.23812I$	$-6.2109-20.3514I$	0
$u=\ \ 1.32524-0.61562I$ $a=\ \ 0.160684+1.194010I$ $b=\ \ 0.70657+2.23812I$	$-6.2109+20.3514I$	0
$u=-1.35644+0.55246I$ $a=-0.461141-0.719339I$ $b=-0.631924-0.916252I$	$-3.37369+5.53723I$	0
$u=-1.35644-0.55246I$ $a=-0.461141+0.719339I$ $b=-0.631924+0.916252I$	$-3.37369-5.53723I$	0
$u=-1.32336+0.62930I$ $a=-0.058732-1.029390I$ $b=-0.62725-2.16900I$	$-1.35406+13.86310I$	0
$u=-1.32336-0.62930I$ $a=-0.058732+1.029390I$ $b=-0.62725+2.16900I$	$-1.35406-13.86310I$	0
$u=-1.40974+0.46544I$ $a=\ \ 0.503773+0.879897I$ $b=\ \ 0.95714+1.49361I$	$-5.03934+5.09956I$	0
$u=-1.40974-0.46544I$ $a=\ \ 0.503773-0.879897I$ $b=\ \ 0.95714-1.49361I$	$-5.03934-5.09956I$	0
$u=\ \ 1.43389+0.43302I$ $a=\ \ 0.044166+0.666122I$ $b=\ \ 0.14385+1.80177I$	$-5.49120-3.48774I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.43389 - 0.43302I$ $a = 0.044166 - 0.666122I$ $b = 0.14385 - 1.80177I$	$-5.49120 + 3.48774I$	0
$u = -1.39933 + 0.54469I$ $a = 0.513245 + 0.765771I$ $b = 0.908658 + 1.020910I$	$-4.06854 + 9.91345I$	0
$u = -1.39933 - 0.54469I$ $a = 0.513245 - 0.765771I$ $b = 0.908658 - 1.020910I$	$-4.06854 - 9.91345I$	0
$u = -1.50697 + 0.29718I$ $a = -0.053090 + 0.558886I$ $b = -0.624099 + 1.235250I$	$-8.48499 - 8.60363I$	0
$u = -1.50697 - 0.29718I$ $a = -0.053090 - 0.558886I$ $b = -0.624099 - 1.235250I$	$-8.48499 + 8.60363I$	0
$u = 1.31621 + 0.83959I$ $a = -0.374237 - 0.753399I$ $b = 0.54149 - 2.04112I$	$-5.96749 - 5.61476I$	0
$u = 1.31621 - 0.83959I$ $a = -0.374237 + 0.753399I$ $b = 0.54149 + 2.04112I$	$-5.96749 + 5.61476I$	0
$u = 1.45421 + 0.66078I$ $a = -0.212720 - 0.729793I$ $b = 0.26029 - 2.08819I$	$-6.08327 - 0.39862I$	0
$u = 1.45421 - 0.66078I$ $a = -0.212720 + 0.729793I$ $b = 0.26029 + 2.08819I$	$-6.08327 + 0.39862I$	0
$u = 0.048848 + 0.338546I$ $a = 2.96021 - 0.83569I$ $b = 0.647852 - 0.516409I$	$-3.83566 - 2.38410I$	$-7.99211 + 1.13563I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.048848 - 0.338546I$ $a = 2.96021 + 0.83569I$ $b = 0.647852 + 0.516409I$	$-3.83566 + 2.38410I$	$-7.99211 - 1.13563I$
$u = 0.047552 + 0.299628I$ $a = 3.22360 - 1.59170I$ $b = 0.634220 + 0.910865I$	$-6.31817 - 0.20964I$	$-6.24749 - 0.03407I$
$u = 0.047552 - 0.299628I$ $a = 3.22360 + 1.59170I$ $b = 0.634220 - 0.910865I$	$-6.31817 + 0.20964I$	$-6.24749 + 0.03407I$
$u = 0.145659 + 0.039974I$ $a = 1.39406 - 4.08523I$ $b = -0.537045 + 0.152952I$	$-1.45636 + 0.53602I$	$-7.55207 - 1.66695I$
$u = 0.145659 - 0.039974I$ $a = 1.39406 + 4.08523I$ $b = -0.537045 - 0.152952I$	$-1.45636 - 0.53602I$	$-7.55207 + 1.66695I$

II.

$\boldsymbol{I_2^u = \langle 1.22\times 10^{26}u^{32} - 5.55\times 10^{26}u^{31} + \cdots + 2.64\times 10^{26}b + 3.56\times 10^{26},\ 1.91\times 10^{27}u^{32} - 8.59\times 10^{27}u^{31} + \cdots + 7.93\times 10^{26}a - 1.03\times 10^{28},\ u^{33} - 4u^{32} + \cdots + u - 3\rangle}$

(i) Arc colorings

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

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

$$a_4 = \begin{pmatrix} -2.41213u^{32} + 10.8419u^{31} + \cdots - 15.6099u + 12.9459 \\ -0.460785u^{32} + 2.09913u^{31} + \cdots - 3.06645u - 1.34891 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -2.96002u^{32} + 13.0321u^{31} + \cdots - 20.9732u + 17.8750 \\ -0.859758u^{32} + 3.54202u^{31} + \cdots - 4.70879u - 1.35295 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.0948124u^{32} - 0.269872u^{31} + \cdots + 11.3494u - 0.591207 \\ -0.163875u^{32} + 0.692395u^{31} + \cdots + 10.9687u - 4.49871 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 1.45008u^{32} - 5.80247u^{31} + \cdots + 21.8634u - 3.85369 \\ 0.338457u^{32} - 1.28192u^{31} + \cdots + 13.3050u - 3.58065 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -3.53497u^{32} + 15.3449u^{31} + \cdots - 22.4013u + 15.7581 \\ -1.58363u^{32} + 6.60215u^{31} + \cdots - 9.85790u + 1.46335 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -0.258759u^{32} + 1.25388u^{31} + \cdots - 15.9577u + 9.66690 \\ 0.324108u^{32} - 1.68500u^{31} + \cdots + 3.43407u - 2.12726 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.186204u^{32} + 0.863659u^{31} + \cdots + 3.26805u - 3.13144 \\ -0.504231u^{32} + 2.31629u^{31} + \cdots - 10.3336u + 4.71325 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} -0.128862u^{32} + 0.912845u^{31} + \cdots - 18.2018u + 12.4124 \\ 0.658876u^{32} - 3.03628u^{31} + \cdots + 4.30602u - 2.58234 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{3887287437070353908428 6568}{26421801916640915351539 6703}u^{32} - \frac{8596568969626054957832 97375}{26421801916640915351539 6703}u^{31} + \cdots - \frac{5717214818683061704822913990}{26421801916640915351539 6703}u + \frac{2367461876678989709026258686}{26421801916640915351539 6703}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{33} - 15u^{32} + \cdots + 100u - 9$
c_2	$u^{33} + 5u^{32} + \cdots - 10u - 3$
c_3	$u^{33} + 4u^{32} + \cdots - 5u^3 + 1$
c_4	$u^{33} + 3u^{32} + \cdots + 3u + 1$
c_5	$u^{33} - 5u^{32} + \cdots - 10u + 3$
c_6	$u^{33} + 2u^{32} + \cdots + 15u + 1$
c_7	$u^{33} + 3u^{32} + \cdots + 3u + 1$
c_8	$u^{33} - 4u^{32} + \cdots + u - 3$
c_9	$u^{33} - 2u^{32} + \cdots + 15u - 1$
c_{10}	$u^{33} + u^{32} + \cdots + 6u - 1$
c_{11}	$u^{33} + 4u^{32} + \cdots + u + 3$
c_{12}	$u^{33} - 2u^{32} + \cdots + 2u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{33}+9y^{32}+\cdots-2780y-81$
c_2, c_5	$y^{33}-15y^{32}+\cdots+100y-9$
c_3	$y^{33}-22y^{32}+\cdots+16y^2-1$
c_4	$y^{33}-9y^{32}+\cdots+21y-1$
c_6, c_9	$y^{33}+30y^{32}+\cdots+37y-1$
c_7	$y^{33}-13y^{32}+\cdots+3y-1$
c_8, c_{11}	$y^{33}-16y^{32}+\cdots+187y-9$
c_{10}	$y^{33}-7y^{32}+\cdots+14y-1$
c_{12}	$y^{33}-2y^{32}+\cdots+8y-1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.951920+0.267560I$ $a=\ \ 1.67013+1.18431I$ $b=\ \ 1.37775+1.75730I$	$-6.86829+1.07142I$	$-20.1631-4.0732I$
$u=-0.951920-0.267560I$ $a=\ \ 1.67013-1.18431I$ $b=\ \ 1.37775-1.75730I$	$-6.86829-1.07142I$	$-20.1631+4.0732I$
$u=\ \ 1.03049$ $a=-0.338521$ $b=\ \ 2.02368$	-3.20545	-39.6230
$u=\ \ 0.590982+0.913740I$ $a=\ \ 0.330747+0.251972I$ $b=-0.0786731+0.0451711I$	$-1.10486-1.44157I$	$-14.8210-0.4937I$
$u=\ \ 0.590982-0.913740I$ $a=\ \ 0.330747-0.251972I$ $b=-0.0786731-0.0451711I$	$-1.10486+1.44157I$	$-14.8210+0.4937I$
$u=-0.066897+0.865994I$ $a=-0.544859-0.677902I$ $b=-0.437008+0.025007I$	$0.37221-2.19374I$	$-0.52813+3.92890I$
$u=-0.066897-0.865994I$ $a=-0.544859+0.677902I$ $b=-0.437008-0.025007I$	$0.37221+2.19374I$	$-0.52813-3.92890I$
$u=\ \ 0.699179+0.438480I$ $a=-0.576232+0.502954I$ $b=\ \ 0.389323-0.779167I$	$1.44296-5.39228I$	$0.02953+4.79292I$
$u=\ \ 0.699179-0.438480I$ $a=-0.576232-0.502954I$ $b=\ \ 0.389323+0.779167I$	$1.44296+5.39228I$	$0.02953-4.79292I$
$u=\ \ 1.117210+0.386758I$ $a=-0.028628+1.150650I$ $b=-0.15124+2.19874I$	$-4.96180+0.27487I$	$-8.02110-0.43238I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.117210 - 0.386758I$ $a = -0.028628 - 1.150650I$ $b = -0.15124 - 2.19874I$	$-4.96180 - 0.27487I$	$-8.02110 + 0.43238I$
$u = 0.552322 + 1.097360I$ $a = 0.125953 + 0.399942I$ $b = 0.023146 - 0.264388I$	$1.46437 - 5.82553I$	$0.20649 + 11.70510I$
$u = 0.552322 - 1.097360I$ $a = 0.125953 - 0.399942I$ $b = 0.023146 + 0.264388I$	$1.46437 + 5.82553I$	$0.20649 - 11.70510I$
$u = 1.027510 + 0.677835I$ $a = -0.612418 - 1.019350I$ $b = 0.01657 - 1.56407I$	$-4.12872 - 5.35259I$	$-5.60711 + 5.87653I$
$u = 1.027510 - 0.677835I$ $a = -0.612418 + 1.019350I$ $b = 0.01657 + 1.56407I$	$-4.12872 + 5.35259I$	$-5.60711 - 5.87653I$
$u = 0.446504 + 1.189630I$ $a = -0.148777 - 0.358296I$ $b = -0.115933 + 0.215929I$	$2.07399 - 0.77091I$	$3.97606 + 7.56423I$
$u = 0.446504 - 1.189630I$ $a = -0.148777 + 0.358296I$ $b = -0.115933 - 0.215929I$	$2.07399 + 0.77091I$	$3.97606 - 7.56423I$
$u = -1.168620 + 0.558886I$ $a = -0.231988 - 1.254930I$ $b = -0.36074 - 1.72850I$	$-2.83894 + 7.23780I$	$-3.51469 - 4.75057I$
$u = -1.168620 - 0.558886I$ $a = -0.231988 + 1.254930I$ $b = -0.36074 + 1.72850I$	$-2.83894 - 7.23780I$	$-3.51469 + 4.75057I$
$u = -0.587888 + 0.093397I$ $a = 2.29073 + 0.06793I$ $b = 0.94833 - 1.24038I$	$-1.91860 + 9.33689I$	$-5.37527 - 7.64774I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.587888-0.093397I$ $a=\ \ 2.29073-0.06793I$ $b=\ \ 0.94833+1.24038I$	$-1.91860-9.33689I$	$-5.37527+7.64774I$
$u=-1.379590+0.294264I$ $a=\ \ 0.688600+0.701993I$ $b=\ \ 0.90335+1.41420I$	$-5.81113+10.16790I$	$-7.95638-10.39476I$
$u=-1.379590-0.294264I$ $a=\ \ 0.688600-0.701993I$ $b=\ \ 0.90335-1.41420I$	$-5.81113-10.16790I$	$-7.95638+10.39476I$
$u=\ \ 0.507519+0.255748I$ $a=\ \ 1.140050-0.668907I$ $b=-0.351570+0.921325I$	$2.66064+0.12553I$	$2.32675-1.13693I$
$u=\ \ 0.507519-0.255748I$ $a=\ \ 1.140050+0.668907I$ $b=-0.351570-0.921325I$	$2.66064-0.12553I$	$2.32675+1.13693I$
$u=\ \ 1.28142+0.70891I$ $a=-0.305040-0.880940I$ $b=\ \ 0.60041-1.88902I$	$-5.57137-1.51328I$	$-11.50954-3.42023I$
$u=\ \ 1.28142-0.70891I$ $a=-0.305040+0.880940I$ $b=\ \ 0.60041+1.88902I$	$-5.57137+1.51328I$	$-11.50954+3.42023I$
$u=\ \ 1.32834+0.62223I$ $a=\ \ 0.236937+0.902141I$ $b=-0.54809+2.07432I$	$-5.85762-5.11082I$	$-8.90745+1.76499I$
$u=\ \ 1.32834-0.62223I$ $a=\ \ 0.236937-0.902141I$ $b=-0.54809-2.07432I$	$-5.85762+5.11082I$	$-8.90745-1.76499I$
$u=-1.43382+0.44753I$ $a=-0.459251-0.720191I$ $b=-0.71490-1.31211I$	$-4.17280+6.18688I$	$-5.84605-7.89576I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.43382-0.44753I$ $a=-0.459251+0.720191I$ $b=-0.71490+1.31211I$	$-4.17280-6.18688I$	$-5.84605+7.89576I$
$u=-0.477510+0.101539I$ $a=-2.74002-0.51117I$ $b=-1.012570-0.966942I$	$0.63416-3.37754I$	$-1.47753+6.20472I$
$u=-0.477510-0.101539I$ $a=-2.74002+0.51117I$ $b=-1.012570+0.966942I$	$0.63416+3.37754I$	$-1.47753-6.20472I$

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

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.00000$ $a=\quad 1.00000+1.41421I$ $b=\quad 1.414210I$	-8.22467	-12.0000
$u=-1.00000$ $a=\quad 1.00000-1.41421I$ $b=\quad -1.414210I$	-8.22467	-12.0000

IV. $I_4^u = \langle 2b - 3a - 2,\ a^2 + 2,\ u + 1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.00000$ $a=\quad 1.414210I$ $b=\quad 1.00000+2.12132I$	-8.22467	-12.0000
$u=-1.00000$ $a=\quad -1.414210I$ $b=\quad 1.00000-2.12132I$	-8.22467	-12.0000

V. $I_5^u = \langle b,\ a+1,\ u-1 \rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -12$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\text{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \quad 1.00000$		
$a = -1.00000$	-3.28987	-12.0000
$b = \quad 0$		

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^5)(u^{33}-15u^{32}+\cdots+100u-9)$ $\cdot(u^{165}+73u^{164}+\cdots+5492581u+346921)$
c_2	$((u-1)^5)(u^{33}+5u^{32}+\cdots-10u-3)(u^{165}+5u^{164}+\cdots-2107u+589)$
c_3	$4(u+1)^3(2u^2-4u+3)(u^{33}+4u^{32}+\cdots-5u^3+1)$ $\cdot(2u^{165}-6u^{164}+\cdots-6475u+1861)$
c_4	$4(u-1)^2(u+1)(2u^2+4u+3)(u^{33}+3u^{32}+\cdots+3u+1)$ $\cdot(2u^{165}+4u^{164}+\cdots-128570378u-140071969)$
c_5	$((u+1)^5)(u^{33}-5u^{32}+\cdots-10u+3)(u^{165}+5u^{164}+\cdots-2107u+589)$
c_6	$u(u^2+2)^2(u^{33}+2u^{32}+\cdots+15u+1)$ $\cdot(u^{165}+11u^{164}+\cdots+593536u+54052)$
c_7	$(u+1)(u^2+2)(u^2-2u+3)(u^{33}+3u^{32}+\cdots+3u+1)$ $\cdot(u^{165}-11u^{164}+\cdots-13275136u+1499648)$
c_8	$(u-1)(u+1)^4(u^{33}-4u^{32}+\cdots+u-3)$ $\cdot(u^{165}+4u^{164}+\cdots-92466u-5291)$
c_9	$u(u^2+2)^2(u^{33}-2u^{32}+\cdots+15u-1)$ $\cdot(u^{165}+11u^{164}+\cdots+593536u+54052)$
c_{10}	$u(u^2+2)^2(u^{33}+u^{32}+\cdots+6u-1)$ $\cdot(u^{165}+18u^{164}+\cdots-1283584u-111872)$
c_{11}	$((u-1)^4)(u+1)(u^{33}+4u^{32}+\cdots+u+3)$ $\cdot(u^{165}+4u^{164}+\cdots-92466u-5291)$
c_{12}	$(u-1)(u^2+2)(u^2-2u+3)(u^{33}-2u^{32}+\cdots+2u-1)$ $\cdot(u^{165}+16u^{164}+\cdots+1428492u+35066)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^5)(y^{33}+9y^{32}+\cdots-2780y-81)$ $\cdot(y^{165}+47y^{164}+\cdots+929433493849y-120354180241)$
c_2, c_5	$((y-1)^5)(y^{33}-15y^{32}+\cdots+100y-9)$ $\cdot(y^{165}-73y^{164}+\cdots+5492581y-346921)$
c_3	$16(y-1)^3(4y^2-4y+9)(y^{33}-22y^{32}+\cdots+16y^2-1)$ $\cdot(4y^{165}-120y^{164}+\cdots+29728631y-3463321)$
c_4	$16(y-1)^3(4y^2-4y+9)(y^{33}-9y^{32}+\cdots+21y-1)$ $\cdot(4y^{165}-228y^{164}+\cdots+1.19\times10^{18}y-1.96\times10^{16})$
c_6, c_9	$y(y+2)^4(y^{33}+30y^{32}+\cdots+37y-1)$ $\cdot(y^{165}+125y^{164}+\cdots+44245013584y-2921618704)$
c_7	$(y-1)(y+2)^2(y^2+2y+9)(y^{33}-13y^{32}+\cdots+3y-1)$ $\cdot(y^{165}-25y^{164}+\cdots+95755580735488y-2248944123904)$
c_8, c_{11}	$((y-1)^5)(y^{33}-16y^{32}+\cdots+187y-9)$ $\cdot(y^{165}-98y^{164}+\cdots+2317734584y-27994681)$
c_{10}	$y(y+2)^4(y^{33}-7y^{32}+\cdots+14y-1)$ $\cdot(y^{165}+16y^{164}+\cdots-906086514688y-12515344384)$
c_{12}	$(y-1)(y+2)^2(y^2+2y+9)(y^{33}-2y^{32}+\cdots+8y-1)$ $\cdot(y^{165}+50y^{164}+\cdots+436180962572y-1229624356)$