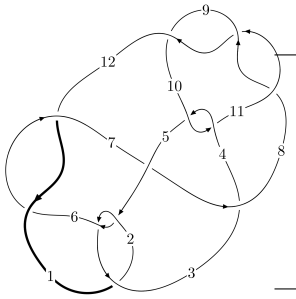
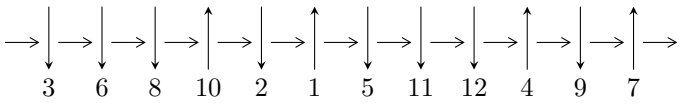
$12a_{0299}$ $(K12a_{0299})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle u^{88} + u^{87} + \cdots + b + 2u,\ 2u^{87} - u^{86} + \cdots + a + 2u,\ u^{89} - 2u^{88} + \cdots - 3u + 1 \rangle$$
$$I_2^u = \langle u^8 + u^7 - 2u^6 - 2u^5 + u^4 + u^3 + u^2 + b + u,\ u^8 + u^7 - 2u^6 - 2u^5 + u^4 + u^3 + u^2 + a + u,$$
$$u^9 + u^8 - 2u^7 - 3u^6 + u^5 + 3u^4 + 2u^3 - u - 1 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 98 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.

$$\boldsymbol{I_1^u = \langle u^{88}+u^{87}+\cdots+b+2u,\ 2u^{87}-u^{86}+\cdots+a+2u,\ u^{89}-2u^{88}+\cdots-3u+1\rangle}$$

(i) Arc colorings

$$a_2 = \begin{pmatrix}1\\0\end{pmatrix}$$

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

$$a_3 = \begin{pmatrix}1\\u^2\end{pmatrix}$$

$$a_1 = \begin{pmatrix}-u^2+1\\-u^4\end{pmatrix}$$

$$a_7 = \begin{pmatrix}u^5-2u^3+u\\u^7-u^5+u\end{pmatrix}$$

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

$$a_8 = \begin{pmatrix}-u^9+2u^7-u^5-2u^3+u\\-u^9+3u^7-3u^5+u\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}-2u^{87}+u^{86}+\cdots+4u^2-2u\\-u^{88}-u^{87}+\cdots+6u^2-2u\end{pmatrix}$$

$$a_4 = \begin{pmatrix}-u^{20}+5u^{18}-11u^{16}+10u^{14}+2u^{12}-13u^{10}+9u^8-3u^4+u^2+1\\-u^{20}+6u^{18}-16u^{16}+22u^{14}-13u^{12}-4u^{10}+10u^8-4u^6-u^4+2u^2\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}u^{86}-u^{85}+\cdots-5u+1\\u^{88}-u^{87}+\cdots+3u^2-u\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}-u^8+3u^6-3u^4+1\\-u^{10}+2u^8-u^6-2u^4+u^2\end{pmatrix}$$

$$a_9 = \begin{pmatrix}-u^{87}+u^{86}+\cdots-3u+1\\-u^{87}+u^{86}+\cdots+5u^2-u\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 10u^{88}-13u^{87}+\cdots+23u-17$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{89}+48u^{88}+\cdots+5u+1$
c_2, c_5	$u^{89}+2u^{88}+\cdots-3u-1$
c_3	$u^{89}+2u^{88}+\cdots-65179u-27289$
c_4, c_{10}	$u^{89}+u^{88}+\cdots-1024u-512$
c_6, c_{12}	$u^{89}+6u^{88}+\cdots+11u+1$
c_7	$u^{89}-12u^{88}+\cdots-4727u+841$
c_8, c_9, c_{11}	$u^{89}-10u^{88}+\cdots+9u-1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{89} - 12y^{88} + \cdots + 13y - 1$
c_2, c_5	$y^{89} - 48y^{88} + \cdots + 5y - 1$
c_3	$y^{89} - 48y^{88} + \cdots + 8750550417y - 744689521$
c_4, c_{10}	$y^{89} + 57y^{88} + \cdots - 262144y - 262144$
c_6, c_{12}	$y^{89} + 72y^{88} + \cdots + 173y - 1$
c_7	$y^{89} - 12y^{88} + \cdots + 56852441y - 707281$
c_8, c_9, c_{11}	$y^{89} - 88y^{88} + \cdots + 17y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.882130 + 0.459832I$ $a = 0.753928 + 0.019303I$ $b = 1.18116 + 0.90759I$	$-1.67152 - 2.05041I$	0
$u = 0.882130 - 0.459832I$ $a = 0.753928 - 0.019303I$ $b = 1.18116 - 0.90759I$	$-1.67152 + 2.05041I$	0
$u = -0.888667 + 0.501711I$ $a = -1.68269 + 2.08780I$ $b = -0.63536 + 2.43657I$	$-3.19630 + 4.44922I$	0
$u = -0.888667 - 0.501711I$ $a = -1.68269 - 2.08780I$ $b = -0.63536 - 2.43657I$	$-3.19630 - 4.44922I$	0
$u = 0.878638 + 0.524715I$ $a = -2.02016 - 0.27913I$ $b = -2.24474 - 1.41150I$	$-0.67711 - 6.71445I$	0
$u = 0.878638 - 0.524715I$ $a = -2.02016 + 0.27913I$ $b = -2.24474 + 1.41150I$	$-0.67711 + 6.71445I$	0
$u = -1.025820 + 0.036404I$ $a = 0.502695 - 0.628539I$ $b = 0.32711 - 1.73815I$	$-4.46205 + 2.45218I$	0
$u = -1.025820 - 0.036404I$ $a = 0.502695 + 0.628539I$ $b = 0.32711 + 1.73815I$	$-4.46205 - 2.45218I$	0
$u = 1.03027$ $a = 1.17910$ $b = 0.0366382$	-6.56879	0
$u = -0.813408 + 0.506521I$ $a = 0.72584 - 1.39872I$ $b = 0.04222 - 1.45621I$	$1.77552 + 2.79390I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.813408-0.506521I$ $a=\ 0.72584+1.39872I$ $b=\ 0.04222+1.45621I$	$1.77552-2.79390I$	0
$u=-0.766346+0.574188I$ $a=\ 1.27704+1.89699I$ $b=\ 1.89555+1.02015I$	$-1.59917+2.27839I$	0
$u=-0.766346-0.574188I$ $a=\ 1.27704-1.89699I$ $b=\ 1.89555-1.02015I$	$-1.59917-2.27839I$	0
$u=\ 0.890309+0.555777I$ $a=\ 2.77606-0.04434I$ $b=\ 2.96738+1.34186I$	$-6.80614-10.62200I$	0
$u=\ 0.890309-0.555777I$ $a=\ 2.77606+0.04434I$ $b=\ 2.96738-1.34186I$	$-6.80614+10.62200I$	0
$u=-1.077470+0.067927I$ $a=-0.953464-0.030989I$ $b=-0.55769+1.30402I$	$-11.16480+6.01176I$	0
$u=-1.077470-0.067927I$ $a=-0.953464+0.030989I$ $b=-0.55769-1.30402I$	$-11.16480-6.01176I$	0
$u=\ 1.005540+0.481619I$ $a=-0.59169+1.64061I$ $b=-1.41901+0.72669I$	$-8.38626+0.32211I$	0
$u=\ 1.005540-0.481619I$ $a=-0.59169-1.64061I$ $b=-1.41901-0.72669I$	$-8.38626-0.32211I$	0
$u=\ 0.879956$ $a=-0.438903$ $b=\ 0.0434340$	-1.41507	-6.32080

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.719693+0.498115I$ $a=-1.64541-0.16716I$ $b=-1.37251+0.55867I$	$2.04791+1.35241I$	$2.73599-3.49653I$
$u=-0.719693-0.498115I$ $a=-1.64541+0.16716I$ $b=-1.37251-0.55867I$	$2.04791-1.35241I$	$2.73599+3.49653I$
$u=0.604923+0.586080I$ $a=-1.17479-2.59369I$ $b=0.40029-1.92697I$	$-6.00205+6.09456I$	$-5.95965-2.74749I$
$u=0.604923-0.586080I$ $a=-1.17479+2.59369I$ $b=0.40029+1.92697I$	$-6.00205-6.09456I$	$-5.95965+2.74749I$
$u=0.139683+0.824970I$ $a=1.78560+1.23758I$ $b=0.01328+1.71548I$	$-10.5541+11.1165I$	$-9.09484-6.04502I$
$u=0.139683-0.824970I$ $a=1.78560-1.23758I$ $b=0.01328-1.71548I$	$-10.5541-11.1165I$	$-9.09484+6.04502I$
$u=1.125280+0.324670I$ $a=0.020945+1.149410I$ $b=-0.391515+0.232413I$	$-7.90994+0.10402I$	0
$u=1.125280-0.324670I$ $a=0.020945-1.149410I$ $b=-0.391515-0.232413I$	$-7.90994-0.10402I$	0
$u=0.070097+0.824515I$ $a=-1.33999-0.65701I$ $b=0.428690-0.050398I$	$-12.56960-1.39660I$	$-11.14850+0.59888I$
$u=0.070097-0.824515I$ $a=-1.33999+0.65701I$ $b=0.428690+0.050398I$	$-12.56960+1.39660I$	$-11.14850-0.59888I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.127151 + 0.808870I$ $a = -1.86816 - 1.03664I$ $b = -0.334206 - 1.268780I$	$-4.17538 + 6.91543I$	$-6.85978 - 6.00800I$
$u = 0.127151 - 0.808870I$ $a = -1.86816 + 1.03664I$ $b = -0.334206 + 1.268780I$	$-4.17538 - 6.91543I$	$-6.85978 + 6.00800I$
$u = -0.114199 + 0.807947I$ $a = -0.871998 - 0.500386I$ $b = -0.900709 + 1.046200I$	$-6.70509 - 4.38760I$	$-8.59798 + 3.04801I$
$u = -0.114199 - 0.807947I$ $a = -0.871998 + 0.500386I$ $b = -0.900709 - 1.046200I$	$-6.70509 + 4.38760I$	$-8.59798 - 3.04801I$
$u = 0.723406 + 0.376492I$ $a = -0.861306 - 0.408790I$ $b = -0.262843 + 0.271220I$	$-1.03887 - 1.52700I$	$-7.90188 + 3.36186I$
$u = 0.723406 - 0.376492I$ $a = -0.861306 + 0.408790I$ $b = -0.262843 - 0.271220I$	$-1.03887 + 1.52700I$	$-7.90188 - 3.36186I$
$u = 0.100576 + 0.799788I$ $a = 1.75921 + 0.69555I$ $b = 0.308103 + 0.514595I$	$-4.99438 + 1.66944I$	$-8.98744 - 0.29481I$
$u = 0.100576 - 0.799788I$ $a = 1.75921 - 0.69555I$ $b = 0.308103 - 0.514595I$	$-4.99438 - 1.66944I$	$-8.98744 + 0.29481I$
$u = 0.607539 + 0.524018I$ $a = 1.23393 + 1.85731I$ $b = 0.029011 + 1.174260I$	$0.07725 + 2.43549I$	$-2.65496 - 3.04260I$
$u = 0.607539 - 0.524018I$ $a = 1.23393 - 1.85731I$ $b = 0.029011 - 1.174260I$	$0.07725 - 2.43549I$	$-2.65496 + 3.04260I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.135680 + 0.431611I$ $a = -0.670399 - 0.816876I$ $b = -0.073487 - 0.404468I$	$-2.93289 - 1.90377I$	0
$u = 1.135680 - 0.431611I$ $a = -0.670399 + 0.816876I$ $b = -0.073487 + 0.404468I$	$-2.93289 + 1.90377I$	0
$u = -0.130036 + 0.763493I$ $a = 0.493983 + 0.363346I$ $b = 0.579994 - 0.453479I$	$-0.97886 - 3.00729I$	$-0.67481 + 3.35384I$
$u = -0.130036 - 0.763493I$ $a = 0.493983 - 0.363346I$ $b = 0.579994 + 0.453479I$	$-0.97886 + 3.00729I$	$-0.67481 - 3.35384I$
$u = -0.215646 + 0.736694I$ $a = 0.352487 - 1.192880I$ $b = -1.03050 - 0.98350I$	$-3.94866 - 3.37994I$	$-8.08194 + 3.34507I$
$u = -0.215646 - 0.736694I$ $a = 0.352487 + 1.192880I$ $b = -1.03050 + 0.98350I$	$-3.94866 + 3.37994I$	$-8.08194 - 3.34507I$
$u = -1.164480 + 0.443069I$ $a = -1.67272 + 1.68727I$ $b = -1.35179 + 2.31894I$	$-5.89254 + 3.02421I$	0
$u = -1.164480 - 0.443069I$ $a = -1.67272 - 1.68727I$ $b = -1.35179 - 2.31894I$	$-5.89254 - 3.02421I$	0
$u = -1.152870 + 0.481167I$ $a = 1.67874 - 0.72539I$ $b = 1.44055 - 1.35851I$	$-2.53850 + 6.10163I$	0
$u = -1.152870 - 0.481167I$ $a = 1.67874 + 0.72539I$ $b = 1.44055 + 1.35851I$	$-2.53850 - 6.10163I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.187870 + 0.391862I$ $a = 0.525322 - 0.087694I$ $b = 0.100629 + 0.162477I$	$-4.81156 - 0.89382I$	0
$u = 1.187870 - 0.391862I$ $a = 0.525322 + 0.087694I$ $b = 0.100629 - 0.162477I$	$-4.81156 + 0.89382I$	0
$u = 1.168200 + 0.464328I$ $a = 1.191870 + 0.076057I$ $b = 0.573207 - 0.271189I$	$-5.73526 - 5.29132I$	0
$u = 1.168200 - 0.464328I$ $a = 1.191870 - 0.076057I$ $b = 0.573207 + 0.271189I$	$-5.73526 + 5.29132I$	0
$u = -1.152500 + 0.516337I$ $a = -1.97753 - 0.61750I$ $b = -2.17920 + 0.19476I$	$-6.67800 + 8.09306I$	0
$u = -1.152500 - 0.516337I$ $a = -1.97753 + 0.61750I$ $b = -2.17920 - 0.19476I$	$-6.67800 - 8.09306I$	0
$u = -0.562722 + 0.472511I$ $a = 2.45276 - 0.28330I$ $b = 1.55804 - 1.30677I$	$-2.32225 - 0.35809I$	$-4.17047 - 0.36662I$
$u = -0.562722 - 0.472511I$ $a = 2.45276 + 0.28330I$ $b = 1.55804 + 1.30677I$	$-2.32225 + 0.35809I$	$-4.17047 + 0.36662I$
$u = 0.412453 + 0.601624I$ $a = -0.48507 + 1.52625I$ $b = -1.61234 - 0.03779I$	$-6.69419 - 4.61561I$	$-6.55496 + 3.28166I$
$u = 0.412453 - 0.601624I$ $a = -0.48507 - 1.52625I$ $b = -1.61234 + 0.03779I$	$-6.69419 + 4.61561I$	$-6.55496 - 3.28166I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.215530+0.385915I$ $a=-1.247140-0.594809I$ $b=-0.68781-1.42794I$	$-8.20441-2.85842I$	0
$u=-1.215530-0.385915I$ $a=-1.247140+0.594809I$ $b=-0.68781+1.42794I$	$-8.20441+2.85842I$	0
$u=-1.213090+0.402391I$ $a=\ \ 0.473702+1.098800I$ $b=\ \ 0.19789+2.00303I$	$-8.89812+2.46893I$	0
$u=-1.213090-0.402391I$ $a=\ \ 0.473702-1.098800I$ $b=\ \ 0.19789-2.00303I$	$-8.89812-2.46893I$	0
$u=\ \ 1.216380+0.393944I$ $a=-1.033210-0.020800I$ $b=-0.130043-0.454382I$	$-10.68610+0.27825I$	0
$u=\ \ 1.216380-0.393944I$ $a=-1.033210+0.020800I$ $b=-0.130043+0.454382I$	$-10.68610-0.27825I$	0
$u=-1.224970+0.375819I$ $a=\ \ 1.393900-0.060385I$ $b=\ \ 0.596587+0.850691I$	$-14.7005-7.0565I$	0
$u=-1.224970-0.375819I$ $a=\ \ 1.393900+0.060385I$ $b=\ \ 0.596587-0.850691I$	$-14.7005+7.0565I$	0
$u=-1.181940+0.500743I$ $a=-0.141013+1.164390I$ $b=\ \ 0.368653+1.242040I$	$-4.04107+7.69031I$	0
$u=-1.181940-0.500743I$ $a=-0.141013-1.164390I$ $b=\ \ 0.368653-1.242040I$	$-4.04107-7.69031I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.226870+0.418077I$ $a=\ \ 0.400302-0.686102I$ $b=\ \ 0.48325-1.89392I$	$-16.4614+5.7289I$	0
$u=-1.226870-0.418077I$ $a=\ \ 0.400302+0.686102I$ $b=\ \ 0.48325+1.89392I$	$-16.4614-5.7289I$	0
$u=\ \ 1.199340+0.497123I$ $a=-1.04238-1.40168I$ $b=-1.37797-2.26390I$	$-8.22467-6.41149I$	0
$u=\ \ 1.199340-0.497123I$ $a=-1.04238+1.40168I$ $b=-1.37797+2.26390I$	$-8.22467+6.41149I$	0
$u=-1.200190+0.503588I$ $a=\ \ 0.43227-2.01242I$ $b=-0.52934-2.23286I$	$-9.90785+9.18672I$	0
$u=-1.200190-0.503588I$ $a=\ \ 0.43227+2.01242I$ $b=-0.52934+2.23286I$	$-9.90785-9.18672I$	0
$u=\ \ 1.198080+0.508599I$ $a=\ \ 1.91009+1.81162I$ $b=\ \ 1.99721+2.79861I$	$-7.33563-11.74480I$	0
$u=\ \ 1.198080-0.508599I$ $a=\ \ 1.91009-1.81162I$ $b=\ \ 1.99721-2.79861I$	$-7.33563+11.74480I$	0
$u=\ \ 1.201410+0.516744I$ $a=-2.54195-1.66813I$ $b=-2.50275-2.84833I$	$-13.7024-16.0279I$	0
$u=\ \ 1.201410-0.516744I$ $a=-2.54195+1.66813I$ $b=-2.50275+2.84833I$	$-13.7024+16.0279I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.214120 + 0.487768I$ $a = 0.960915 + 0.219353I$ $b = 1.64886 + 1.19641I$	$-15.9643 - 3.3550I$	0
$u = 1.214120 - 0.487768I$ $a = 0.960915 - 0.219353I$ $b = 1.64886 - 1.19641I$	$-15.9643 + 3.3550I$	0
$u = 0.045537 + 0.676922I$ $a = 1.077040 - 0.256080I$ $b = 0.256695 - 1.092910I$	$-2.59868 + 1.01996I$	$-7.42495 + 0.64864I$
$u = 0.045537 - 0.676922I$ $a = 1.077040 + 0.256080I$ $b = 0.256695 + 1.092910I$	$-2.59868 - 1.01996I$	$-7.42495 - 0.64864I$
$u = -0.143647 + 0.650890I$ $a = -0.915631 + 0.433122I$ $b = 0.091936 + 0.985043I$	$0.32466 - 1.74343I$	$-0.09678 + 4.11913I$
$u = -0.143647 - 0.650890I$ $a = -0.915631 - 0.433122I$ $b = 0.091936 - 0.985043I$	$0.32466 + 1.74343I$	$-0.09678 - 4.11913I$
$u = 0.379396 + 0.460960I$ $a = -0.230295 - 1.120240I$ $b = 0.664172 + 0.181918I$	$-0.53005 - 1.55644I$	$-3.23373 + 4.26726I$
$u = 0.379396 - 0.460960I$ $a = -0.230295 + 1.120240I$ $b = 0.664172 - 0.181918I$	$-0.53005 + 1.55644I$	$-3.23373 - 4.26726I$
$u = -0.557461$ $a = 2.83655$ $b = 1.80666$	-2.28508	-1.20430

II. $\boldsymbol{I_2^u = \langle u^8+u^7-2u^6-2u^5+u^4+u^3+u^2+b+u,\ u^8+u^7-2u^6-2u^5+u^4+u^3+u^2+a+u,\ u^9+u^8-2u^7-3u^6+u^5+3u^4+2u^3-u-1\rangle}$

(i) Arc colorings

$$a_2 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^2+1 \\ -u^4 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u^5-2u^3+u \\ u^7-u^5+u \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} u^8-3u^6+3u^4-1 \\ u^8+u^7-3u^6-2u^5+3u^4+2u^3-1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -u^8-u^7+2u^6+2u^5-u^4-u^3-u^2-u \\ -u^8-u^7+2u^6+2u^5-u^4-u^3-u^2-u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} u \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^8-u^7+2u^6+2u^5-u^4-u^3-u^2-u \\ -u^8-u^7+2u^6+2u^5-u^4-u^3-u^2-u \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -u^8+3u^6-3u^4+1 \\ -u^8-u^7+3u^6+2u^5-3u^4-2u^3+1 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -u^7-u^6+2u^5+2u^4-u^3-u^2-u-1 \\ -u^6+2u^4+u^3-u^2-u-1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -u^8-6u^7+u^6+12u^5+5u^4-10u^3-7u^2-7u-6$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^9 - 5u^8 + 12u^7 - 15u^6 + 9u^5 + u^4 - 4u^3 + 2u^2 + u - 1$
c_2	$u^9 + u^8 - 2u^7 - 3u^6 + u^5 + 3u^4 + 2u^3 - u - 1$
c_3	$u^9 + u^8 + 2u^7 + u^6 + 3u^5 + u^4 + 2u^3 + u - 1$
c_4, c_{10}	u^9
c_5	$u^9 - u^8 - 2u^7 + 3u^6 + u^5 - 3u^4 + 2u^3 - u + 1$
c_6	$u^9 - 3u^8 + 8u^7 - 13u^6 + 17u^5 - 17u^4 + 12u^3 - 6u^2 + u + 1$
c_7	$u^9 - u^8 + 2u^7 - u^6 + 3u^5 - u^4 + 2u^3 + u + 1$
c_8, c_9	$(u-1)^9$
c_{11}	$(u+1)^9$
c_{12}	$u^9 + 3u^8 + 8u^7 + 13u^6 + 17u^5 + 17u^4 + 12u^3 + 6u^2 + u - 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^9 - y^8 + 12y^7 - 7y^6 + 37y^5 + y^4 - 10y^2 + 5y - 1$
c_2, c_5	$y^9 - 5y^8 + 12y^7 - 15y^6 + 9y^5 + y^4 - 4y^3 + 2y^2 + y - 1$
c_3, c_7	$y^9 + 3y^8 + 8y^7 + 13y^6 + 17y^5 + 17y^4 + 12y^3 + 6y^2 + y - 1$
c_4, c_{10}	y^9
c_6, c_{12}	$y^9 + 7y^8 + 20y^7 + 25y^6 + 5y^5 - 15y^4 + 22y^2 + 13y - 1$
c_8, c_9, c_{11}	$(y-1)^9$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.772920+0.510351I$ $a=\ \ 0.630598+0.707882I$ $b=\ \ 0.630598+0.707882I$	$0.13850+2.09337I$	$-1.56547-4.18932I$
$u=-0.772920-0.510351I$ $a=\ \ 0.630598-0.707882I$ $b=\ \ 0.630598-0.707882I$	$0.13850-2.09337I$	$-1.56547+4.18932I$
$u=\ \ 0.825933$ $a=-1.61202$ $b=-1.61202$	-2.84338	-16.7240
$u=\ \ 1.173910+0.391555I$ $a=\ \ 0.552775+1.001020I$ $b=\ \ 0.552775+1.001020I$	$-6.01628-1.33617I$	$-11.45029+1.01794I$
$u=\ \ 1.173910-0.391555I$ $a=\ \ 0.552775-1.001020I$ $b=\ \ 0.552775-1.001020I$	$-6.01628+1.33617I$	$-11.45029-1.01794I$
$u=-0.141484+0.739668I$ $a=-0.481040-0.507127I$ $b=-0.481040-0.507127I$	$-2.26187-2.45442I$	$-5.68179+2.62939I$
$u=-0.141484-0.739668I$ $a=-0.481040+0.507127I$ $b=-0.481040+0.507127I$	$-2.26187+2.45442I$	$-5.68179-2.62939I$
$u=-1.172470+0.500383I$ $a=-0.896321-0.526299I$ $b=-0.896321-0.526299I$	$-5.24306+7.08493I$	$-8.94033-5.11095I$
$u=-1.172470-0.500383I$ $a=-0.896321+0.526299I$ $b=-0.896321+0.526299I$	$-5.24306-7.08493I$	$-8.94033+5.11095I$

III. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^9-5u^8+12u^7-15u^6+9u^5+u^4-4u^3+2u^2+u-1)$ $\cdot(u^{89}+48u^{88}+\cdots+5u+1)$
c_2	$(u^9+u^8+\cdots-u-1)(u^{89}+2u^{88}+\cdots-3u-1)$
c_3	$(u^9+u^8+2u^7+u^6+3u^5+u^4+2u^3+u-1)$ $\cdot(u^{89}+2u^{88}+\cdots-65179u-27289)$
c_4, c_{10}	$u^9(u^{89}+u^{88}+\cdots-1024u-512)$
c_5	$(u^9-u^8+\cdots-u+1)(u^{89}+2u^{88}+\cdots-3u-1)$
c_6	$(u^9-3u^8+8u^7-13u^6+17u^5-17u^4+12u^3-6u^2+u+1)$ $\cdot(u^{89}+6u^{88}+\cdots+11u+1)$
c_7	$(u^9-u^8+2u^7-u^6+3u^5-u^4+2u^3+u+1)$ $\cdot(u^{89}-12u^{88}+\cdots-4727u+841)$
c_8, c_9	$((u-1)^9)(u^{89}-10u^{88}+\cdots+9u-1)$
c_{11}	$((u+1)^9)(u^{89}-10u^{88}+\cdots+9u-1)$
c_{12}	$(u^9+3u^8+8u^7+13u^6+17u^5+17u^4+12u^3+6u^2+u-1)$ $\cdot(u^{89}+6u^{88}+\cdots+11u+1)$

IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$(y^9 - y^8 + 12y^7 - 7y^6 + 37y^5 + y^4 - 10y^2 + 5y - 1)$ $\cdot (y^{89} - 12y^{88} + \cdots + 13y - 1)$
c_2, c_5	$(y^9 - 5y^8 + 12y^7 - 15y^6 + 9y^5 + y^4 - 4y^3 + 2y^2 + y - 1)$ $\cdot (y^{89} - 48y^{88} + \cdots + 5y - 1)$
c_3	$(y^9 + 3y^8 + 8y^7 + 13y^6 + 17y^5 + 17y^4 + 12y^3 + 6y^2 + y - 1)$ $\cdot (y^{89} - 48y^{88} + \cdots + 8750550417y - 744689521)$
c_4, c_{10}	$y^9(y^{89} + 57y^{88} + \cdots - 262144y - 262144)$
c_6, c_{12}	$(y^9 + 7y^8 + 20y^7 + 25y^6 + 5y^5 - 15y^4 + 22y^2 + 13y - 1)$ $\cdot (y^{89} + 72y^{88} + \cdots + 173y - 1)$
c_7	$(y^9 + 3y^8 + 8y^7 + 13y^6 + 17y^5 + 17y^4 + 12y^3 + 6y^2 + y - 1)$ $\cdot (y^{89} - 12y^{88} + \cdots + 56852441y - 707281)$
c_8, c_9, c_{11}	$((y-1)^9)(y^{89} - 88y^{88} + \cdots + 17y - 1)$