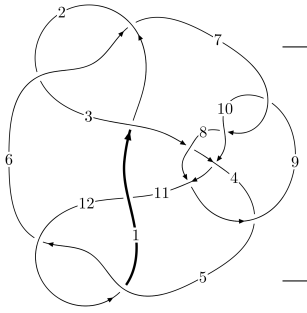
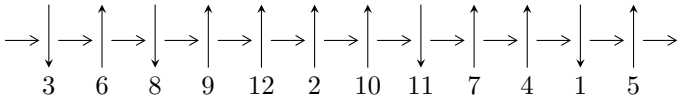
$12a_{0288}$ $(K12a_{0288})$



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -6.31109 \times 10^{21} u^{55} - 7.82504 \times 10^{21} u^{54} + \cdots + 5.87982 \times 10^{21} b - 7.54174 \times 10^{21},$$
$$3.46636 \times 10^{21} u^{55} + 5.58656 \times 10^{21} u^{54} + \cdots + 3.91988 \times 10^{21} a + 2.03288 \times 10^{22},\ u^{56} + u^{55} + \cdots + 5u + 1 \rangle$$
$$I_2^u = \langle -4.48511 \times 10^{91} u^{83} + 8.27522 \times 10^{90} u^{82} + \cdots + 5.10117 \times 10^{93} b - 6.71976 \times 10^{93},$$
$$2.37745 \times 10^{94} u^{83} + 9.35836 \times 10^{93} u^{82} + \cdots + 8.67198 \times 10^{94} a + 1.23067 \times 10^{95},\ u^{84} + u^{83} + \cdots + 88u + 1$$
$$I_3^u = \langle 12a^5 u + 50a^4 u + 60a^4 - 58a^3 u + 200a^3 - 345a^2 u + 66a^2 - 132au + 13b - 290a + 125u - 56,$$
$$a^6 - 6a^5 u + 5a^5 - 25a^4 u - 6a^4 - 16a^3 u - 48a^3 + 44a^2 u - 41a^2 + 34au + 20a - 4u + 11,\ u^2 + 1 \rangle$$
$$I_4^u = \langle 2b - 3,\ 4a - 1,\ u + 1 \rangle$$

* 4 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 153 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.

$$\boldsymbol{I_1^u = \langle -6.31\times 10^{21}u^{55} - 7.83\times 10^{21}u^{54} + \cdots + 5.88\times 10^{21}b - 7.54\times 10^{21},\ 3.47\times 10^{21}u^{55} + 5.59\times 10^{21}u^{54} + \cdots + 3.92\times 10^{21}a + 2.03\times 10^{22},\ u^{56} + u^{55} + \cdots + 5u + 1\rangle}$$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.884303u^{55} - 1.42519u^{54} + \cdots - 11.7187u - 5.18607 \\ 1.07335u^{55} + 1.33083u^{54} + \cdots + 10.5900u + 1.28265 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.398819u^{55} + 0.264821u^{54} + \cdots - 1.50716u - 4.14726 \\ -0.293268u^{55} - 0.142370u^{54} + \cdots + 7.15161u + 1.04151 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 1.12125u^{55} + 0.795368u^{54} + \cdots - 1.21708u + 3.71105 \\ 0.728912u^{55} + 0.645449u^{54} + \cdots + 5.28443u + 0.988456 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -u^4 - u^2 - 1 \\ -0.0156250u^{55} - 0.0156250u^{54} + \cdots - 2.07813u^2 - 0.0156250u \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} -1 \\ -0.0156250u^{55} - 0.0156250u^{54} + \cdots - 2.07813u^2 - 0.0156250u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ 0.0156250u^{54} + 0.0156250u^{53} + \cdots + 1.07813u + 0.0156250 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.338735u^{55} - 0.642358u^{54} + \cdots - 7.14616u - 4.61240 \\ 1.28465u^{55} + 1.74616u^{54} + \cdots + 13.4307u + 1.61906 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -\frac{29125476928318618116311}{15679520968247263985664}u^{55} + \frac{44772161939557650505}{12249625756443174988 8}u^{54} + \cdots + \frac{4734298697513985251 9811}{1306626747353938665472}u + \frac{16836098460346686589 6361}{15679520968247263985664}$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^{56} + 23u^{55} + \cdots + 7u + 1$
c_2, c_5, c_6 c_{12}	$u^{56} - u^{55} + \cdots - 5u + 1$
c_3	$2(2u^{56} - 7u^{55} + \cdots - 1408u + 568)$
c_4	$2(2u^{56} + 5u^{55} + \cdots - 12415u - 1814)$
c_7, c_9	$u^{56} + 2u^{55} + \cdots + 111u - 16$
c_8	$u^{56} - 9u^{55} + \cdots - 108u + 32$
c_{10}	$u^{56} - 11u^{55} + \cdots + 12u - 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{56} + 27y^{55} + \cdots - 281y + 1$
c_2, c_5, c_6 c_{12}	$y^{56} + 23y^{55} + \cdots + 7y + 1$
c_3	$4(4y^{56} + 203y^{55} + \cdots + 8791360y + 322624)$
c_4	$4(4y^{56} + 203y^{55} + \cdots - 6.38349 \times 10^7 y + 3290596)$
c_7, c_9	$y^{56} - 34y^{55} + \cdots - 3873y + 256$
c_8	$y^{56} - 9y^{55} + \cdots - 14928y + 1024$
c_{10}	$y^{56} - 13y^{55} + \cdots - 56y + 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.641354 + 0.766924I$ $a = 0.694797 - 0.010474I$ $b = -0.411989 + 0.253331I$	$1.69613 + 5.88626I$	$6.59882 - 10.04911I$
$u = 0.641354 - 0.766924I$ $a = 0.694797 + 0.010474I$ $b = -0.411989 - 0.253331I$	$1.69613 - 5.88626I$	$6.59882 + 10.04911I$
$u = 0.890495 + 0.394781I$ $a = 0.56585 + 1.71637I$ $b = 0.77307 + 2.16329I$	$5.23278 - 8.75525I$	$9.12590 + 4.28286I$
$u = 0.890495 - 0.394781I$ $a = 0.56585 - 1.71637I$ $b = 0.77307 - 2.16329I$	$5.23278 + 8.75525I$	$9.12590 - 4.28286I$
$u = 0.680820 + 0.645893I$ $a = -0.27069 - 1.56272I$ $b = -0.429081 - 1.133110I$	$5.34241 + 3.10303I$	$13.5555 - 6.2410I$
$u = 0.680820 - 0.645893I$ $a = -0.27069 + 1.56272I$ $b = -0.429081 + 1.133110I$	$5.34241 - 3.10303I$	$13.5555 + 6.2410I$
$u = 0.391841 + 0.990849I$ $a = 0.108165 + 1.215430I$ $b = -1.272990 - 0.612251I$	$-5.11253 + 3.37715I$	$-0.88601 - 5.46141I$
$u = 0.391841 - 0.990849I$ $a = 0.108165 - 1.215430I$ $b = -1.272990 + 0.612251I$	$-5.11253 - 3.37715I$	$-0.88601 + 5.46141I$
$u = -0.356333 + 1.031000I$ $a = 0.112919 + 1.134410I$ $b = 1.06758 - 1.21699I$	$-3.74795 + 3.70678I$	$1.07262 + 1.48118I$
$u = -0.356333 - 1.031000I$ $a = 0.112919 - 1.134410I$ $b = 1.06758 + 1.21699I$	$-3.74795 - 3.70678I$	$1.07262 - 1.48118I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.567758+0.703113I$ $a=-0.048537+0.661451I$ $b=\ \ 0.909520+0.756625I$	$1.47606-2.14860I$	$6.53813+2.61588I$
$u=-0.567758-0.703113I$ $a=-0.048537-0.661451I$ $b=\ \ 0.909520-0.756625I$	$1.47606+2.14860I$	$6.53813-2.61588I$
$u=-1.004770+0.465676I$ $a=-0.752461+1.121390I$ $b=-1.11019+2.22948I$	$3.88963+0.18068I$	$12.1686-14.3132I$
$u=-1.004770-0.465676I$ $a=-0.752461-1.121390I$ $b=-1.11019-2.22948I$	$3.88963-0.18068I$	$12.1686+14.3132I$
$u=\ \ 0.699427+0.539052I$ $a=-0.43783-2.08391I$ $b=\ \ 0.185339-1.303870I$	$5.10282-0.74752I$	$13.56172+0.84027I$
$u=\ \ 0.699427-0.539052I$ $a=-0.43783+2.08391I$ $b=\ \ 0.185339+1.303870I$	$5.10282+0.74752I$	$13.56172-0.84027I$
$u=-1.13520$ $a=-0.599595$ $b=-2.22015$	3.17493	-46.8580
$u=-0.443116+1.068040I$ $a=-0.294627+0.330709I$ $b=-0.701327+0.323759I$	$-6.12718-2.42607I$	$0.+3.46050I$
$u=-0.443116-1.068040I$ $a=-0.294627-0.330709I$ $b=-0.701327-0.323759I$	$-6.12718+2.42607I$	$0.-3.46050I$
$u=-0.604422+0.580004I$ $a=\ \ 1.67133-3.65644I$ $b=\ \ 0.06407-4.02240I$	$2.96769-1.32540I$	$-18.6606+10.9069I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.604422-0.580004I$ $a=\ 1.67133+3.65644I$ $b=\ 0.06407+4.02240I$	$2.96769+1.32540I$	$-18.6606-10.9069I$
$u=\ 0.727400+0.390596I$ $a=-0.558491-0.668115I$ $b=\ 0.155223-0.051892I$	$0.86120-3.19371I$	$6.98585+3.47955I$
$u=\ 0.727400-0.390596I$ $a=-0.558491+0.668115I$ $b=\ 0.155223+0.051892I$	$0.86120+3.19371I$	$6.98585-3.47955I$
$u=\ 0.798907+0.863165I$ $a=\ 1.08626+1.62924I$ $b=-0.25509+2.32871I$	$6.92651+10.55710I$	$8.79807-9.19219I$
$u=\ 0.798907-0.863165I$ $a=\ 1.08626-1.62924I$ $b=-0.25509-2.32871I$	$6.92651-10.55710I$	$8.79807+9.19219I$
$u=-0.546311+1.045040I$ $a=-0.004162-0.200042I$ $b=-0.618017+0.983572I$	$-0.04707-3.40862I$	0
$u=-0.546311-1.045040I$ $a=-0.004162+0.200042I$ $b=-0.618017-0.983572I$	$-0.04707+3.40862I$	0
$u=\ 0.422043+1.122130I$ $a=\ 0.259194+0.525303I$ $b=\ 0.143647-0.242320I$	$-5.00479+8.23366I$	$0.-10.38982I$
$u=\ 0.422043-1.122130I$ $a=\ 0.259194-0.525303I$ $b=\ 0.143647+0.242320I$	$-5.00479-8.23366I$	$0.+10.38982I$
$u=\ 0.541495+1.089460I$ $a=\ 1.35077-1.05139I$ $b=\ 1.28833+2.18214I$	$-1.20159+6.69686I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.541495 - 1.089460I$ $a = 1.35077 + 1.05139I$ $b = 1.28833 - 2.18214I$	$-1.20159 - 6.69686I$	0
$u = -0.799984 + 0.939547I$ $a = -1.30937 + 1.40522I$ $b = 0.57203 + 2.16000I$	$6.49526 - 1.44027I$	0
$u = -0.799984 - 0.939547I$ $a = -1.30937 - 1.40522I$ $b = 0.57203 - 2.16000I$	$6.49526 + 1.44027I$	0
$u = -0.051851 + 0.762889I$ $a = 0.282476 + 1.053620I$ $b = -0.690965 - 0.883742I$	$-2.27089 - 5.91381I$	$7.94668 + 7.27969I$
$u = -0.051851 - 0.762889I$ $a = 0.282476 - 1.053620I$ $b = -0.690965 + 0.883742I$	$-2.27089 + 5.91381I$	$7.94668 - 7.27969I$
$u = -0.591203 + 1.092780I$ $a = 1.31016 - 1.25263I$ $b = -0.930688 - 0.609508I$	$2.45649 - 6.90794I$	0
$u = -0.591203 - 1.092780I$ $a = 1.31016 + 1.25263I$ $b = -0.930688 + 0.609508I$	$2.45649 + 6.90794I$	0
$u = 0.568843 + 1.123960I$ $a = -3.35816 - 1.22273I$ $b = 0.85524 - 3.67514I$	$-0.61428 + 8.19980I$	0
$u = 0.568843 - 1.123960I$ $a = -3.35816 + 1.22273I$ $b = 0.85524 + 3.67514I$	$-0.61428 - 8.19980I$	0
$u = -0.594804 + 1.135650I$ $a = 1.55919 - 1.02268I$ $b = -0.21013 - 1.56219I$	$1.33863 - 10.96070I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.594804-1.135650I$ $a=\ \ 1.55919+1.02268I$ $b=-0.21013+1.56219I$	$1.33863+10.96070I$	0
$u=-0.559956+0.434306I$ $a=-0.589021-0.157164I$ $b=-0.697701+0.414035I$	$1.163170-0.747921I$	$7.34726+4.22076I$
$u=-0.559956-0.434306I$ $a=-0.589021+0.157164I$ $b=-0.697701-0.414035I$	$1.163170+0.747921I$	$7.34726-4.22076I$
$u=\ \ 0.551322+1.170130I$ $a=\ \ 0.065982+0.333605I$ $b=-0.706084-0.227289I$	$-3.52575+8.58144I$	0
$u=\ \ 0.551322-1.170130I$ $a=\ \ 0.065982-0.333605I$ $b=-0.706084+0.227289I$	$-3.52575-8.58144I$	0
$u=\ \ 0.061371+0.690777I$ $a=-0.450846+0.828076I$ $b=\ \ 0.897751-0.266212I$	$-3.81337-0.64970I$	$3.11741-0.92674I$
$u=\ \ 0.061371-0.690777I$ $a=-0.450846-0.828076I$ $b=\ \ 0.897751+0.266212I$	$-3.81337+0.64970I$	$3.11741+0.92674I$
$u=-0.582882+1.176740I$ $a=\ \ 0.049432-0.569260I$ $b=\ \ 0.047888-0.543291I$	$-3.89165-13.47290I$	0
$u=-0.582882-1.176740I$ $a=\ \ 0.049432+0.569260I$ $b=\ \ 0.047888+0.543291I$	$-3.89165+13.47290I$	0
$u=-0.609351+1.211770I$ $a=-1.98054+1.28391I$ $b=\ \ 1.22737+2.10225I$	$0.1196-20.0021I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.609351-1.211770I$ $a=-1.98054-1.28391I$ $b=\ \ 1.22737-2.10225I$	$0.1196+20.0021I$	0
$u=\ \ 0.631153+1.210450I$ $a=\ \ 1.59641+1.30244I$ $b=-1.48858+1.76082I$	$-0.97220+12.02980I$	0
$u=\ \ 0.631153-1.210450I$ $a=\ \ 1.59641-1.30244I$ $b=-1.48858-1.76082I$	$-0.97220-12.02980I$	0
$u=-0.101342+0.410395I$ $a=-1.242190-0.632064I$ $b=\ \ 0.097330+1.042940I$	$0.89200-1.30649I$	$6.20526+4.80910I$
$u=-0.101342-0.410395I$ $a=-1.242190+0.632064I$ $b=\ \ 0.097330-1.042940I$	$0.89200+1.30649I$	$6.20526-4.80910I$
$u=-0.249581$ $a=-4.98248$ $b=-0.802957$	2.23670	0.606960

II. $I_2^u = \langle -4.49 \times 10^{91} u^{83} + 8.28 \times 10^{90} u^{82} + \cdots + 5.10 \times 10^{93} b - 6.72 \times 10^{93},\ 2.38 \times 10^{94} u^{83} + 9.36 \times 10^{93} u^{82} + \cdots + 8.67 \times 10^{94} a + 1.23 \times 10^{95},\ u^{84} + u^{83} + \cdots + 88u + 17 \rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

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

$$a_2 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.274153u^{83} - 0.107915u^{82} + \cdots - 4.50932u - 1.41914 \\ 0.00879232u^{83} - 0.00162222u^{82} + \cdots + 2.60942u + 1.31730 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -0.0179921u^{83} + 0.241722u^{82} + \cdots + 45.6550u + 13.6692 \\ 0.00995629u^{83} + 0.0822915u^{82} + \cdots + 8.95606u + 2.13864 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.375221u^{83} - 0.209923u^{82} + \cdots - 12.2704u - 2.30297 \\ -0.150797u^{83} - 0.0987334u^{82} + \cdots - 1.35636u - 0.733590 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.132863u^{83} - 0.0894160u^{82} + \cdots - 20.7215u - 5.84894 \\ -0.0224294u^{83} - 0.0235312u^{82} + \cdots + 0.893970u + 1.39768 \end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix} -0.178939u^{83} - 0.110997u^{82} + \cdots - 24.5523u - 8.40162 \\ 1 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.126765u^{83} - 0.0582595u^{82} + \cdots - 18.5803u - 8.21843 \\ -0.0679413u^{83} + 0.000564076u^{82} + \cdots - 6.34498u - 3.04196 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -0.285202u^{83} - 0.171429u^{82} + \cdots - 9.87160u - 3.03135 \\ 0.0104337u^{83} - 0.0117629u^{82} + \cdots + 2.05195u + 0.597007 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -0.0168362u^{83} + 0.405628u^{82} + \cdots + 25.2983u + 3.62973$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$u^{84} + 47u^{83} + \cdots - 672u + 289$
c_2, c_5, c_6 c_{12}	$u^{84} - u^{83} + \cdots - 88u + 17$
c_3	$(u^{42} + u^{41} + \cdots + 10u + 4)^2$
c_4	$(u^{42} - u^{41} + \cdots - 21u + 1)^2$
c_7, c_9	$(u^{42} + u^{41} + \cdots + 7u + 1)^2$
c_8	$(u^{42} - 7u^{41} + \cdots - u + 1)^2$
c_{10}	$(u^{42} + 3u^{41} + \cdots + u + 1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$y^{84} - 21y^{83} + \cdots - 9557396y + 83521$
c_2, c_5, c_6 c_{12}	$y^{84} + 47y^{83} + \cdots - 672y + 289$
c_3	$(y^{42} + 41y^{41} + \cdots + 308y + 16)^2$
c_4	$(y^{42} + 33y^{41} + \cdots - 247y + 1)^2$
c_7, c_9	$(y^{42} - 27y^{41} + \cdots - 7y + 1)^2$
c_8	$(y^{42} - 3y^{41} + \cdots - 7y + 1)^2$
c_{10}	$(y^{42} - 7y^{41} + \cdots - 3y + 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.951872+0.276744I$ $a=-0.39157+1.57246I$ $b=-1.04779+2.14004I$	$2.9646+14.3413I$	$4.00000-8.28932I$
$u=-0.951872-0.276744I$ $a=-0.39157-1.57246I$ $b=-1.04779-2.14004I$	$2.9646-14.3413I$	$4.00000+8.28932I$
$u=\ \ 0.531874+0.814655I$ $a=-0.235436-0.176088I$ $b=\ \ 0.428289+0.678050I$	$1.56120-1.20148I$	$7.68187+4.16647I$
$u=\ \ 0.531874-0.814655I$ $a=-0.235436+0.176088I$ $b=\ \ 0.428289-0.678050I$	$1.56120+1.20148I$	$7.68187-4.16647I$
$u=\ \ 0.987080+0.316254I$ $a=\ \ 0.582224+1.121970I$ $b=\ \ 1.30000+1.90393I$	$1.77491-6.18924I$	0
$u=\ \ 0.987080-0.316254I$ $a=\ \ 0.582224-1.121970I$ $b=\ \ 1.30000-1.90393I$	$1.77491+6.18924I$	0
$u=-0.472668+0.925828I$ $a=-1.38938-0.57724I$ $b=-0.85123+1.67366I$	$0.88637-2.06372I$	0
$u=-0.472668-0.925828I$ $a=-1.38938+0.57724I$ $b=-0.85123-1.67366I$	$0.88637+2.06372I$	0
$u=-0.365634+0.990499I$ $a=\ \ 2.37994-2.01802I$ $b=-0.146160-1.186050I$	$-1.39551-2.76342I$	0
$u=-0.365634-0.990499I$ $a=\ \ 2.37994+2.01802I$ $b=-0.146160+1.186050I$	$-1.39551+2.76342I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.166361 + 1.064190I$ $a = 0.222499 + 0.775256I$ $b = 0.501062 - 0.154481I$	$-3.70167 - 1.01542I$	0
$u = 0.166361 - 1.064190I$ $a = 0.222499 - 0.775256I$ $b = 0.501062 + 0.154481I$	$-3.70167 + 1.01542I$	0
$u = -0.861223 + 0.274631I$ $a = 0.447664 - 0.841230I$ $b = -0.101282 - 0.359060I$	$-1.20076 + 8.16087I$	$3.94706 - 7.65229I$
$u = -0.861223 - 0.274631I$ $a = 0.447664 + 0.841230I$ $b = -0.101282 + 0.359060I$	$-1.20076 - 8.16087I$	$3.94706 + 7.65229I$
$u = -0.219257 + 0.874467I$ $a = 3.40559 - 2.71073I$ $b = 0.020182 - 0.631523I$	$-0.621946 + 0.257129I$	$8.13768 + 2.68186I$
$u = -0.219257 - 0.874467I$ $a = 3.40559 + 2.71073I$ $b = 0.020182 + 0.631523I$	$-0.621946 - 0.257129I$	$8.13768 - 2.68186I$
$u = 0.307330 + 1.066780I$ $a = -5.67618 - 0.22144I$ $b = 0.08332 - 2.91001I$	$-2.80543 + 0.38762I$	0
$u = 0.307330 - 1.066780I$ $a = -5.67618 + 0.22144I$ $b = 0.08332 + 2.91001I$	$-2.80543 - 0.38762I$	0
$u = -0.816869 + 0.351666I$ $a = 0.02403 - 1.83361I$ $b = 0.05111 - 1.46523I$	$3.66382 + 5.70185I$	$10.61456 - 6.99288I$
$u = -0.816869 - 0.351666I$ $a = 0.02403 + 1.83361I$ $b = 0.05111 + 1.46523I$	$3.66382 - 5.70185I$	$10.61456 + 6.99288I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.585604 + 0.948707I$ $a = -1.32890 - 1.58654I$ $b = 0.668874 - 0.815038I$	$4.44406 + 1.79873I$	0
$u = 0.585604 - 0.948707I$ $a = -1.32890 + 1.58654I$ $b = 0.668874 + 0.815038I$	$4.44406 - 1.79873I$	0
$u = -0.855194 + 0.715858I$ $a = -0.76816 + 1.52285I$ $b = -0.13960 + 2.24229I$	$7.14323 - 4.60033I$	0
$u = -0.855194 - 0.715858I$ $a = -0.76816 - 1.52285I$ $b = -0.13960 - 2.24229I$	$7.14323 + 4.60033I$	0
$u = 0.568046 + 0.959810I$ $a = 1.37749 + 1.72915I$ $b = -0.76692 + 1.63638I$	$-4.13754 + 2.24209I$	0
$u = 0.568046 - 0.959810I$ $a = 1.37749 - 1.72915I$ $b = -0.76692 - 1.63638I$	$-4.13754 - 2.24209I$	0
$u = -0.758844 + 0.419717I$ $a = -0.287572 - 1.117020I$ $b = 0.668874 - 0.815038I$	$4.44406 + 1.79873I$	$12.47510 - 0.83291I$
$u = -0.758844 - 0.419717I$ $a = -0.287572 + 1.117020I$ $b = 0.668874 + 0.815038I$	$4.44406 - 1.79873I$	$12.47510 + 0.83291I$
$u = -0.537381 + 1.003410I$ $a = 3.69954 - 1.88396I$ $b = -0.46119 - 3.74468I$	$1.69916 - 3.19900I$	0
$u = -0.537381 - 1.003410I$ $a = 3.69954 + 1.88396I$ $b = -0.46119 + 3.74468I$	$1.69916 + 3.19900I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.826710 + 0.792492I$ $a = 1.19449 + 1.56505I$ $b = -0.13960 + 2.24229I$	$7.14323 - 4.60033I$	0
$u = 0.826710 - 0.792492I$ $a = 1.19449 - 1.56505I$ $b = -0.13960 - 2.24229I$	$7.14323 + 4.60033I$	0
$u = -0.093008 + 1.146880I$ $a = 1.30559 + 0.60076I$ $b = 0.020182 + 0.631523I$	$-0.621946 - 0.257129I$	0
$u = -0.093008 - 1.146880I$ $a = 1.30559 - 0.60076I$ $b = 0.020182 - 0.631523I$	$-0.621946 + 0.257129I$	0
$u = -0.441120 + 1.073580I$ $a = -0.313016 - 0.998766I$ $b = -0.145380 - 0.195788I$	$-6.13332 - 4.53919I$	0
$u = -0.441120 - 1.073580I$ $a = -0.313016 + 0.998766I$ $b = -0.145380 + 0.195788I$	$-6.13332 + 4.53919I$	0
$u = 0.015777 + 1.168210I$ $a = 0.254753 + 1.283830I$ $b = 0.259413 - 0.533713I$	$-3.54870 - 1.34243I$	0
$u = 0.015777 - 1.168210I$ $a = 0.254753 - 1.283830I$ $b = 0.259413 + 0.533713I$	$-3.54870 + 1.34243I$	0
$u = 0.246543 + 1.147790I$ $a = 2.96006 - 1.66756I$ $b = 0.08332 + 2.91001I$	$-2.80543 - 0.38762I$	0
$u = 0.246543 - 1.147790I$ $a = 2.96006 + 1.66756I$ $b = 0.08332 - 2.91001I$	$-2.80543 + 0.38762I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = \ 0.790539 + 0.233655I$ $a = \ 0.254852 - 0.304931I$ $b = \ 0.744215 - 0.026824I$	$-0.77775 - 3.57467I$	$2.99358 + 1.46864I$
$u = \ 0.790539 - 0.233655I$ $a = \ 0.254852 + 0.304931I$ $b = \ 0.744215 + 0.026824I$	$-0.77775 + 3.57467I$	$2.99358 - 1.46864I$
$u = \ 0.753325 + 0.332759I$ $a = -0.52004 - 2.83483I$ $b = -0.46119 - 3.74468I$	$1.69916 - 3.19900I$	$-4.91732 - 10.84472I$
$u = \ 0.753325 - 0.332759I$ $a = -0.52004 + 2.83483I$ $b = -0.46119 + 3.74468I$	$1.69916 + 3.19900I$	$-4.91732 + 10.84472I$
$u = \ 0.587978 + 1.024140I$ $a = -1.45243 - 1.33342I$ $b = \ 0.05111 - 1.46523I$	$3.66382 + 5.70185I$	0
$u = \ 0.587978 - 1.024140I$ $a = -1.45243 + 1.33342I$ $b = \ 0.05111 + 1.46523I$	$3.66382 - 5.70185I$	0
$u = -0.537462 + 1.060840I$ $a = -2.06677 + 1.86366I$ $b = \ 0.87584 + 1.89908I$	$-2.44680 - 10.28750I$	0
$u = -0.537462 - 1.060840I$ $a = -2.06677 - 1.86366I$ $b = \ 0.87584 - 1.89908I$	$-2.44680 + 10.28750I$	0
$u = -0.620482 + 0.509254I$ $a = -0.955022 + 0.401385I$ $b = \ 0.428289 + 0.678050I$	$1.56120 - 1.20148I$	$7.68187 + 4.16647I$
$u = -0.620482 - 0.509254I$ $a = -0.955022 - 0.401385I$ $b = \ 0.428289 - 0.678050I$	$1.56120 + 1.20148I$	$7.68187 - 4.16647I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.510672+1.083630I$ $a=-0.114052+0.483358I$ $b=\ \ 0.744215-0.026824I$	$-0.77775-3.57467I$	0
$u=-0.510672-1.083630I$ $a=-0.114052-0.483358I$ $b=\ \ 0.744215+0.026824I$	$-0.77775+3.57467I$	0
$u=-0.197785+1.208910I$ $a=-0.388972+0.092186I$ $b=-0.146160+1.186050I$	$-1.39551+2.76342I$	0
$u=-0.197785-1.208910I$ $a=-0.388972-0.092186I$ $b=-0.146160-1.186050I$	$-1.39551-2.76342I$	0
$u=\ \ 0.358263+1.176890I$ $a=\ \ 0.438284+0.625720I$ $b=-0.576547$	-4.99175	0
$u=\ \ 0.358263-1.176890I$ $a=\ \ 0.438284-0.625720I$ $b=-0.576547$	-4.99175	0
$u=\ \ 0.574474+1.095730I$ $a=\ \ 0.156893-0.575244I$ $b=-0.101282-0.359060I$	$-1.20076+8.16087I$	0
$u=\ \ 0.574474-1.095730I$ $a=\ \ 0.156893+0.575244I$ $b=-0.101282+0.359060I$	$-1.20076-8.16087I$	0
$u=-0.578971+0.461942I$ $a=-0.82324+2.49340I$ $b=-0.47444+1.70352I$	$-0.66943+5.77796I$	$4.70723-3.77194I$
$u=-0.578971-0.461942I$ $a=-0.82324-2.49340I$ $b=-0.47444-1.70352I$	$-0.66943-5.77796I$	$4.70723+3.77194I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.716730 + 0.176249I$ $a = -0.540642 + 0.599446I$ $b = 0.379962 + 0.861183I$	$-1.62437 + 4.60168I$	$1.92175 - 9.10658I$
$u = 0.716730 - 0.176249I$ $a = -0.540642 - 0.599446I$ $b = 0.379962 - 0.861183I$	$-1.62437 - 4.60168I$	$1.92175 + 9.10658I$
$u = 0.633608 + 0.363234I$ $a = 0.414127 + 0.949449I$ $b = -0.85123 + 1.67366I$	$0.88637 - 2.06372I$	$7.58768 + 6.20553I$
$u = 0.633608 - 0.363234I$ $a = 0.414127 - 0.949449I$ $b = -0.85123 - 1.67366I$	$0.88637 + 2.06372I$	$7.58768 - 6.20553I$
$u = -0.277378 + 1.257970I$ $a = -0.335234 + 0.865928I$ $b = 0.379962 - 0.861183I$	$-1.62437 - 4.60168I$	0
$u = -0.277378 - 1.257970I$ $a = -0.335234 - 0.865928I$ $b = 0.379962 + 0.861183I$	$-1.62437 + 4.60168I$	0
$u = -0.270661 + 1.259850I$ $a = -0.593163 + 0.562481I$ $b = -0.145380 + 0.195788I$	$-6.13332 + 4.53919I$	0
$u = -0.270661 - 1.259850I$ $a = -0.593163 - 0.562481I$ $b = -0.145380 - 0.195788I$	$-6.13332 - 4.53919I$	0
$u = 0.100542 + 1.292600I$ $a = -0.145253 + 1.056930I$ $b = -0.47444 - 1.70352I$	$-0.66943 - 5.77796I$	0
$u = 0.100542 - 1.292600I$ $a = -0.145253 - 1.056930I$ $b = -0.47444 + 1.70352I$	$-0.66943 + 5.77796I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.629938 + 1.144520I$ $a = 1.88349 + 1.45771I$ $b = -1.04779 + 2.14004I$	$2.9646 + 14.3413I$	0
$u = 0.629938 - 1.144520I$ $a = 1.88349 - 1.45771I$ $b = -1.04779 - 2.14004I$	$2.9646 - 14.3413I$	0
$u = 0.425157 + 1.241880I$ $a = 0.709496 + 0.661172I$ $b = -0.780021$	-4.89562	0
$u = 0.425157 - 1.241880I$ $a = 0.709496 - 0.661172I$ $b = -0.780021$	-4.89562	0
$u = 0.164634 + 0.664229I$ $a = 1.79299 + 0.74893I$ $b = 0.259413 + 0.533713I$	$-3.54870 + 1.34243I$	$1.03679 - 4.26706I$
$u = 0.164634 - 0.664229I$ $a = 1.79299 - 0.74893I$ $b = 0.259413 - 0.533713I$	$-3.54870 - 1.34243I$	$1.03679 + 4.26706I$
$u = -0.673733 + 1.141180I$ $a = -1.49035 + 1.37377I$ $b = 1.30000 + 1.90393I$	$1.77491 - 6.18924I$	0
$u = -0.673733 - 1.141180I$ $a = -1.49035 - 1.37377I$ $b = 1.30000 - 1.90393I$	$1.77491 + 6.18924I$	0
$u = -0.260548 + 1.338350I$ $a = 0.141594 + 1.088570I$ $b = 0.87584 - 1.89908I$	$-2.44680 + 10.28750I$	0
$u = -0.260548 - 1.338350I$ $a = 0.141594 - 1.088570I$ $b = 0.87584 + 1.89908I$	$-2.44680 - 10.28750I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.182393 + 1.356620I$ $a = 0.071105 + 1.273620I$ $b = -0.76692 - 1.63638I$	$-4.13754 - 2.24209I$	0
$u = 0.182393 - 1.356620I$ $a = 0.071105 - 1.273620I$ $b = -0.76692 + 1.63638I$	$-4.13754 + 2.24209I$	0
$u = -0.352141 + 0.038419I$ $a = 1.45162 - 1.80927I$ $b = 0.501062 + 0.154481I$	$-3.70167 + 1.01542I$	$0.525020 - 1.212964I$
$u = -0.352141 - 0.038419I$ $a = 1.45162 + 1.80927I$ $b = 0.501062 - 0.154481I$	$-3.70167 - 1.01542I$	$0.525020 + 1.212964I$

III.

$\boldsymbol{I_3^u = \langle 12a^5u+50a^4u+\cdots-290a-56,\ -6a^5u-25a^4u+\cdots+20a+11,\ u^2+1\rangle}$

(i) Arc colorings

$$a_3 = \begin{pmatrix}1\\0\end{pmatrix}$$

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

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

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

$$a_{10} = \begin{pmatrix}a\\-0.923077a^5u - 3.84615a^4u + \cdots + 22.3077a + 4.30769\end{pmatrix}$$

$$a_8 = \begin{pmatrix}-0.923077a^5u - 7.69231a^4u + \cdots + 8.84615a + 10.1538\\0.615385a^5u + 2.23077a^4u + \cdots - 17.5385a - 1.53846\end{pmatrix}$$

$$a_4 = \begin{pmatrix}0.307692a^5u + 5.84615a^4u + \cdots + 7.53846a - 8\\-3.46154a^4u - 13.5385a^3u + \cdots - 13.6154a + 2.46154\end{pmatrix}$$

$$a_{11} = \begin{pmatrix}-1\\-2.30769a^5u - 10.6154a^4u + \cdots + 42.7692a + 15.7692\end{pmatrix}$$

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

$$a_{12} = \begin{pmatrix}-1\\-2.30769a^5u - 10.6154a^4u + \cdots + 42.7692a + 14.7692\end{pmatrix}$$

$$a_5 = \begin{pmatrix}-u\\-11.5385a^4u - 42.4615a^3u + \cdots - 40.3846a + 13.5385\end{pmatrix}$$

$$a_9 = \begin{pmatrix}-0.923077a^5u - 3.84615a^4u + \cdots + 23.3077a + 4.30769\\-0.923077a^5u - 3.84615a^4u + \cdots + 22.3077a + 4.30769\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes

$= \frac{20}{13}a^5 - \frac{100}{13}a^4u + \frac{92}{13}a^4 - \frac{368}{13}a^3u - \frac{36}{13}a^3 - \frac{292}{13}a^2u - \frac{484}{13}a^2 + \frac{232}{13}au - \frac{324}{13}a + \frac{76}{13}u - \frac{4}{13}$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.000000I$ $a = -0.655968 + 0.901719I$ $b = -0.664531 - 0.428243I$	$-5.18047 + 0.92430I$	$-5.71672 - 0.79423I$
$u = 1.000000I$ $a = 0.415113 + 0.618748I$ $b = 0.558752 - 1.073950I$	$-3.28987 + 5.69302I$	$-2.00000 - 5.51057I$
$u = 1.000000I$ $a = -0.655968 + 1.098280I$ $b = 0.664531 - 0.428243I$	$-5.18047 - 0.92430I$	$-5.71672 + 0.79423I$
$u = 1.000000I$ $a = 0.41511 + 1.38125I$ $b = -0.558752 - 1.073950I$	$-3.28987 - 5.69302I$	$-2.00000 + 5.51057I$
$u = 1.000000I$ $a = -2.25915 - 0.43225I$ $b = 0.295542 + 1.002190I$	$-1.39926 - 0.92430I$	$1.71672 + 0.79423I$
$u = 1.000000I$ $a = -2.25915 + 2.43225I$ $b = -0.295542 + 1.002190I$	$-1.39926 + 0.92430I$	$1.71672 - 0.79423I$
$u = -1.000000I$ $a = -0.655968 - 0.901719I$ $b = -0.664531 + 0.428243I$	$-5.18047 - 0.92430I$	$-5.71672 + 0.79423I$
$u = -1.000000I$ $a = 0.415113 - 0.618748I$ $b = 0.558752 + 1.073950I$	$-3.28987 - 5.69302I$	$-2.00000 + 5.51057I$
$u = -1.000000I$ $a = -0.655968 - 1.098280I$ $b = 0.664531 + 0.428243I$	$-5.18047 + 0.92430I$	$-5.71672 - 0.79423I$
$u = -1.000000I$ $a = 0.41511 - 1.38125I$ $b = -0.558752 + 1.073950I$	$-3.28987 + 5.69302I$	$-2.00000 - 5.51057I$

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.000000I$		
$a = -2.25915 + 0.43225I$	$-1.39926 + 0.92430I$	$1.71672 - 0.79423I$
$b = 0.295542 - 1.002190I$		
$u = -1.000000I$		
$a = -2.25915 - 2.43225I$	$-1.39926 - 0.92430I$	$1.71672 + 0.79423I$
$b = -0.295542 - 1.002190I$		

IV. $I_4^u = \langle 2b-3,\ 4a-1,\ u+1 \rangle$

(i) Arc colorings

$$a_3 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_6 = \begin{pmatrix} 0 \\ -1 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} -1 \\ -2 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} 0.25 \\ 1.5 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} -0.75 \\ -0.5 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 1.375 \\ 0.25 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 3 \\ 2 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} 2 \\ 1 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} -0.75 \\ -0.5 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 26.0625$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.00000$ $a = \quad 0.250000$ $b = \quad 1.50000$	3.28987	26.0630

V. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1, c_{11}	$((u-1)^{12})(u+1)(u^{56}+23u^{55}+\cdots+7u+1)$ $\cdot(u^{84}+47u^{83}+\cdots-672u+289)$
c_2, c_{12}	$(u+1)(u^2+1)^6(u^{56}-u^{55}+\cdots-5u+1)(u^{84}-u^{83}+\cdots-88u+17)$
c_3	$4(2u+1)(u^{12}-u^{10}+\cdots-3u^2+1)(u^{42}+u^{41}+\cdots+10u+4)^2$ $\cdot(2u^{56}-7u^{55}+\cdots-1408u+568)$
c_4	$4(2u+1)(u^{12}+3u^{10}+5u^8+4u^6+2u^4+u^2+1)$ $\cdot((u^{42}-u^{41}+\cdots-21u+1)^2)(2u^{56}+5u^{55}+\cdots-12415u-1814)$
c_5, c_6	$(u-1)(u^2+1)^6(u^{56}-u^{55}+\cdots-5u+1)(u^{84}-u^{83}+\cdots-88u+17)$
c_7	$(u+1)(u^6-u^5+\cdots-u+1)^2(u^{42}+u^{41}+\cdots+7u+1)^2$ $\cdot(u^{56}+2u^{55}+\cdots+111u-16)$
c_8	$u(u^6+u^5+\cdots+u+1)^2(u^{42}-7u^{41}+\cdots-u+1)^2$ $\cdot(u^{56}-9u^{55}+\cdots-108u+32)$
c_9	$(u-1)(u^6+u^5+\cdots+u+1)^2(u^{42}+u^{41}+\cdots+7u+1)^2$ $\cdot(u^{56}+2u^{55}+\cdots+111u-16)$
c_{10}	$(u+2)(u^{12}-u^{10}+\cdots-3u^2+1)(u^{42}+3u^{41}+\cdots+u+1)^2$ $\cdot(u^{56}-11u^{55}+\cdots+12u-4)$

VI. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1, c_{11}	$((y-1)^{13})(y^{56}+27y^{55}+\cdots-281y+1)$ $\cdot(y^{84}-21y^{83}+\cdots-9557396y+83521)$
c_2, c_5, c_6 c_{12}	$(y-1)(y+1)^{12}(y^{56}+23y^{55}+\cdots+7y+1)$ $\cdot(y^{84}+47y^{83}+\cdots-672y+289)$
c_3	$16(4y-1)(y^6-y^5+5y^4+6y^2-3y+1)^2$ $\cdot(y^{42}+41y^{41}+\cdots+308y+16)^2$ $\cdot(4y^{56}+203y^{55}+\cdots+8791360y+322624)$
c_4	$16(4y-1)(y^6+3y^5+5y^4+4y^3+2y^2+y+1)^2$ $\cdot(y^{42}+33y^{41}+\cdots-247y+1)^2$ $\cdot(4y^{56}+203y^{55}+\cdots-63834933y+3290596)$
c_7, c_9	$(y-1)(y^6-3y^5+5y^4-4y^3+2y^2-y+1)^2$ $\cdot((y^{42}-27y^{41}+\cdots-7y+1)^2)(y^{56}-34y^{55}+\cdots-3873y+256)$
c_8	$y(y^6-3y^5+\cdots-y+1)^2(y^{42}-3y^{41}+\cdots-7y+1)^2$ $\cdot(y^{56}-9y^{55}+\cdots-14928y+1024)$
c_{10}	$(y-4)(y^6-y^5+\cdots-3y+1)^2(y^{42}-7y^{41}+\cdots-3y+1)^2$ $\cdot(y^{56}-13y^{55}+\cdots-56y+16)$