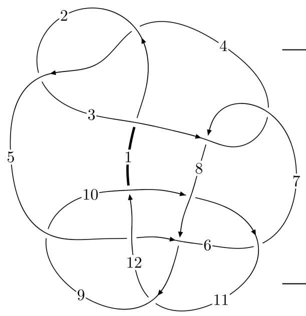
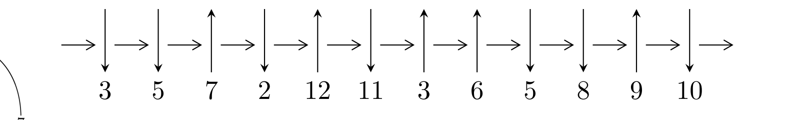
$12n_{0173}$ ($K12n_{0173}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$I_1^u = \langle -3.58032 \times 10^{67} u^{39} + 2.06674 \times 10^{67} u^{38} + \cdots + 9.73803 \times 10^{65} b - 1.02729 \times 10^{69},$$
$$5.45075 \times 10^{69} u^{39} - 3.75387 \times 10^{69} u^{38} + \cdots + 1.65547 \times 10^{67} a + 1.34484 \times 10^{71},\ u^{40} - 4u^{38} + \cdots + 97u +$$
$$I_2^u = \langle 9.27676 \times 10^{169} u^{45} - 2.27749 \times 10^{170} u^{44} + \cdots + 9.75406 \times 10^{172} b + 4.16059 \times 10^{173},$$
$$9.42080 \times 10^{173} u^{45} - 2.43360 \times 10^{174} u^{44} + \cdots + 2.48046 \times 10^{176} a + 3.47623 \times 10^{177},$$
$$u^{46} - 2u^{45} + \cdots + 9446u + 2543 \rangle$$
$$I_3^u = \langle u^3 + 3u^2 + 4b + 2u + 1,\ -3u^3 - u^2 + 4a - 2u + 5,\ u^4 + u^2 - u + 1 \rangle$$
$$I_4^u = \langle -4u^{14} - 2u^{13} + \cdots + b - 5,$$
$$-2u^{14} - u^{13} + 5u^{12} - 3u^{11} - 10u^{10} + 11u^9 + 10u^8 - 14u^7 - 3u^6 + 14u^5 + u^4 - 8u^3 + u^2 + a + 3u - 1,$$
$$u^{15} - 3u^{13} + 3u^{12} + 5u^{11} - 9u^{10} - 3u^9 + 12u^8 - 2u^7 - 11u^6 + 4u^5 + 7u^4 - 5u^3 - 2u^2 + 3u - 1 \rangle$$
$$I_5^u = \langle -u^5 - u^4 - 2u^3 - 2u^2 + b - u - 1,\ -u^5 - 2u^3 - u^2 + a - 2u - 2,\ u^6 + u^5 + 2u^4 + 2u^3 + 2u^2 + 2u + 1 \rangle$$

* 5 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 111 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. $I_1^u = \langle -3.58 \times 10^{67}u^{39} + 2.07 \times 10^{67}u^{38} + \cdots + 9.74 \times 10^{65}b - 1.03 \times 10^{69},\ 5.45 \times 10^{69}u^{39} - 3.75 \times 10^{69}u^{38} + \cdots + 1.66 \times 10^{67}a + 1.34 \times 10^{71},\ u^{40} - 4u^{38} + \cdots + 97u + 17 \rangle$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} -329.258u^{39} + 226.756u^{38} + \cdots - 34572.1u - 8123.67 \\ 36.7664u^{39} - 21.2234u^{38} + \cdots + 4276.56u + 1054.93 \end{pmatrix}$$

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

$$a_8 = \begin{pmatrix} -79.7827u^{39} + 49.4021u^{38} + \cdots - 8924.80u - 2162.21 \\ -83.0595u^{39} + 59.0553u^{38} + \cdots - 8544.73u - 1992.63 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} -162.842u^{39} + 108.457u^{38} + \cdots - 17469.5u - 4154.84 \\ -83.0595u^{39} + 59.0553u^{38} + \cdots - 8544.73u - 1992.63 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} -398.430u^{39} + 268.461u^{38} + \cdots - 42420.9u - 10043.8 \\ -83.0595u^{39} + 59.0553u^{38} + \cdots - 8544.73u - 1992.63 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 8.75622u^{39} - 10.8797u^{38} + \cdots + 451.374u + 56.6766 \\ -120.738u^{39} + 80.3482u^{38} + \cdots - 12927.2u - 3059.02 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} -90.2726u^{39} + 62.6721u^{38} + \cdots - 9459.34u - 2231.28 \\ 87.9281u^{39} - 59.6344u^{38} + \cdots + 9289.11u + 2178.55 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 136.341u^{39} - 97.9644u^{38} + \cdots + 13897.5u + 3213.89 \\ -122.755u^{39} + 78.6483u^{38} + \cdots - 13489.8u - 3244.38 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -151.962u^{39} + 97.3994u^{38} + \cdots - 16676.8u - 4005.99 \\ -163.408u^{39} + 112.006u^{38} + \cdots - 17197.3u - 4045.18 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -107.859u^{39} + 79.5764u^{38} + \cdots - 10793.0u - 2477.92 \\ 152.528u^{39} - 100.948u^{38} + \cdots + 16405.7u + 3896.33 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -185.230u^{39} + 123.975u^{38} + \cdots - 19743.3u - 4644.59$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{40} + 41u^{39} + \cdots + 8641u + 256$
c_2, c_4	$u^{40} - 7u^{39} + \cdots - 81u + 16$
c_3, c_7	$u^{40} - 5u^{39} + \cdots + 1632u + 256$
c_5, c_8	$u^{40} + u^{39} + \cdots + 2u + 1$
c_6, c_9	$u^{40} - 4u^{38} + \cdots - 97u + 17$
c_{10}, c_{12}	$u^{40} + 4u^{39} + \cdots - 3u + 1$
c_{11}	$u^{40} + 25u^{39} + \cdots + 36u + 4$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{40} - 77y^{39} + \cdots - 6662529y + 65536$
c_2, c_4	$y^{40} - 41y^{39} + \cdots - 8641y + 256$
c_3, c_7	$y^{40} + 27y^{39} + \cdots - 226304y + 65536$
c_5, c_8	$y^{40} + 17y^{39} + \cdots + 40y + 1$
c_6, c_9	$y^{40} - 8y^{39} + \cdots - 4275y + 289$
c_{10}, c_{12}	$y^{40} - 40y^{39} + \cdots - 15y + 1$
c_{11}	$y^{40} - y^{39} + \cdots + 1144y + 16$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.916795+0.271284I$ $a=\ \ 0.07185-2.25689I$ $b=-0.886132-0.556013I$	$-4.61460+4.21677I$	$-10.36400-7.96016I$
$u=-0.916795-0.271284I$ $a=\ \ 0.07185+2.25689I$ $b=-0.886132+0.556013I$	$-4.61460-4.21677I$	$-10.36400+7.96016I$
$u=-0.257747+1.059350I$ $a=-1.51427+1.70732I$ $b=\ \ 2.53555-1.59062I$	$-2.65950+0.01537I$	$-10.44302+0.45727I$
$u=-0.257747-1.059350I$ $a=-1.51427-1.70732I$ $b=\ \ 2.53555+1.59062I$	$-2.65950-0.01537I$	$-10.44302-0.45727I$
$u=-0.773206+0.447559I$ $a=\ \ 0.294992-0.155460I$ $b=\ \ 1.237270+0.037085I$	$1.37570+6.93076I$	$-8.7508-11.5757I$
$u=-0.773206-0.447559I$ $a=\ \ 0.294992+0.155460I$ $b=\ \ 1.237270-0.037085I$	$1.37570-6.93076I$	$-8.7508+11.5757I$
$u=\ \ 0.843869+0.116958I$ $a=\ \ 0.699504+0.268479I$ $b=-0.806806+0.392167I$	$-6.65685-1.58265I$	$-10.51643+4.50982I$
$u=\ \ 0.843869-0.116958I$ $a=\ \ 0.699504-0.268479I$ $b=-0.806806-0.392167I$	$-6.65685+1.58265I$	$-10.51643-4.50982I$
$u=-0.742457+0.416076I$ $a=-1.13504+1.53730I$ $b=-0.146732-0.117931I$	$-10.74610+5.03761I$	$-8.95297-0.57470I$
$u=-0.742457-0.416076I$ $a=-1.13504-1.53730I$ $b=-0.146732+0.117931I$	$-10.74610-5.03761I$	$-8.95297+0.57470I$

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -0.596745 + 1.034040I$ $a = 0.0958413 - 0.0250611I$ $b = 0.457567 - 0.044691I$	$1.35612 + 7.74333I$	$9.28204 - 10.17690I$
$u = -0.596745 - 1.034040I$ $a = 0.0958413 + 0.0250611I$ $b = 0.457567 + 0.044691I$	$1.35612 - 7.74333I$	$9.28204 + 10.17690I$
$u = 0.515825 + 1.095850I$ $a = 0.699738 + 0.145025I$ $b = -0.618119 - 0.598353I$	$-5.33600 - 3.23521I$	0
$u = 0.515825 - 1.095850I$ $a = 0.699738 - 0.145025I$ $b = -0.618119 + 0.598353I$	$-5.33600 + 3.23521I$	0
$u = 0.297740 + 0.729548I$ $a = -0.726912 - 0.545199I$ $b = 0.205553 + 0.589406I$	$0.08293 - 1.53752I$	$0.71639 + 4.76389I$
$u = 0.297740 - 0.729548I$ $a = -0.726912 + 0.545199I$ $b = 0.205553 - 0.589406I$	$0.08293 + 1.53752I$	$0.71639 - 4.76389I$
$u = 0.594134 + 0.510868I$ $a = -0.461994 + 0.161353I$ $b = 0.337579 - 0.191190I$	$-1.25513 - 1.56952I$	$-2.17390 + 4.23177I$
$u = 0.594134 - 0.510868I$ $a = -0.461994 - 0.161353I$ $b = 0.337579 + 0.191190I$	$-1.25513 + 1.56952I$	$-2.17390 - 4.23177I$
$u = -1.178420 + 0.383003I$ $a = -0.27016 + 1.72025I$ $b = 0.672757 + 0.873454I$	$-11.7135 + 8.0385I$	$-13.2209 - 9.1027I$
$u = -1.178420 - 0.383003I$ $a = -0.27016 - 1.72025I$ $b = 0.672757 - 0.873454I$	$-11.7135 - 8.0385I$	$-13.2209 + 9.1027I$

Solutions to I^u_1	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.668836 + 0.264877I$ $a = 0.282272 + 1.160020I$ $b = 0.135893 - 0.315911I$	$-1.90192 + 1.40153I$	$-6.20748 - 1.19828I$
$u = 0.668836 - 0.264877I$ $a = 0.282272 - 1.160020I$ $b = 0.135893 + 0.315911I$	$-1.90192 - 1.40153I$	$-6.20748 + 1.19828I$
$u = -0.679465 + 0.012974I$ $a = 0.90700 - 2.42772I$ $b = 0.690272 + 0.025224I$	$-4.35694 + 0.92822I$	$-9.14930 + 0.28573I$
$u = -0.679465 - 0.012974I$ $a = 0.90700 + 2.42772I$ $b = 0.690272 - 0.025224I$	$-4.35694 - 0.92822I$	$-9.14930 - 0.28573I$
$u = -0.423175 + 0.521589I$ $a = 1.35188 + 1.41277I$ $b = 1.03242 - 1.13997I$	$-2.35252 + 0.61317I$	$-4.61633 + 3.05486I$
$u = -0.423175 - 0.521589I$ $a = 1.35188 - 1.41277I$ $b = 1.03242 + 1.13997I$	$-2.35252 - 0.61317I$	$-4.61633 - 3.05486I$
$u = -0.663180 + 0.080866I$ $a = -0.505742 + 0.206401I$ $b = -1.384640 - 0.132216I$	$2.64301 + 1.48294I$	$-4.81453 + 7.72547I$
$u = -0.663180 - 0.080866I$ $a = -0.505742 - 0.206401I$ $b = -1.384640 + 0.132216I$	$2.64301 - 1.48294I$	$-4.81453 - 7.72547I$
$u = 1.31926 + 0.81503I$ $a = -0.254068 - 1.123980I$ $b = 2.08311 - 0.15702I$	$-5.42435 - 5.89974I$	0
$u = 1.31926 - 0.81503I$ $a = -0.254068 + 1.123980I$ $b = 2.08311 + 0.15702I$	$-5.42435 + 5.89974I$	0

Solutions to I_1^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = -1.33509 + 1.00004I$ $a = -0.103766 + 0.191805I$ $b = -1.191910 + 0.700889I$	$-7.28442 + 9.37900I$	0
$u = -1.33509 - 1.00004I$ $a = -0.103766 - 0.191805I$ $b = -1.191910 - 0.700889I$	$-7.28442 - 9.37900I$	0
$u = 1.64955 + 0.34859I$ $a = 0.041797 + 0.918280I$ $b = -1.41260 + 0.58964I$	$-14.3131 - 1.3284I$	0
$u = 1.64955 - 0.34859I$ $a = 0.041797 - 0.918280I$ $b = -1.41260 - 0.58964I$	$-14.3131 + 1.3284I$	0
$u = 1.25011 + 1.13972I$ $a = 0.537152 + 1.115220I$ $b = -2.58218 + 0.30646I$	$-4.50733 - 12.55940I$	0
$u = 1.25011 - 1.13972I$ $a = 0.537152 - 1.115220I$ $b = -2.58218 - 0.30646I$	$-4.50733 + 12.55940I$	0
$u = -0.82513 + 1.61273I$ $a = 0.619679 - 0.520496I$ $b = -2.49695 + 0.94026I$	$-10.55600 + 0.42655I$	0
$u = -0.82513 - 1.61273I$ $a = 0.619679 + 0.520496I$ $b = -2.49695 - 0.94026I$	$-10.55600 - 0.42655I$	0
$u = 1.25209 + 1.40579I$ $a = -0.710628 - 0.936920I$ $b = 2.76309 - 0.57698I$	$-11.2981 - 17.8760I$	0
$u = 1.25209 - 1.40579I$ $a = -0.710628 + 0.936920I$ $b = 2.76309 + 0.57698I$	$-11.2981 + 17.8760I$	0

II. $\boldsymbol{I_2^u = \langle 9.28 \times 10^{169} u^{45} - 2.28 \times 10^{170} u^{44} + \cdots + 9.75 \times 10^{172} b + 4.16 \times 10^{173},\ 9.42 \times 10^{173} u^{45} - 2.43 \times 10^{174} u^{44} + \cdots + 2.48 \times 10^{176} a + 3.48 \times 10^{177},\ u^{46} - 2u^{45} + \cdots + 9446u + 2543\rangle}$

(i) Arc colorings

$$a_6 = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$
$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$
$$a_3 = \begin{pmatrix} -0.00379801u^{45} + 0.00981109u^{44} + \cdots - 43.1222u - 14.0145 \\ -0.000951066u^{45} + 0.00233492u^{44} + \cdots - 8.80677u - 4.26549 \end{pmatrix}$$
$$a_7 = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$
$$a_8 = \begin{pmatrix} 0.000716237u^{45} - 0.00105546u^{44} + \cdots + 4.58476u + 9.05145 \\ 0.00144541u^{45} - 0.00363803u^{44} + \cdots + 12.3847u + 6.56682 \end{pmatrix}$$
$$a_9 = \begin{pmatrix} 0.00216165u^{45} - 0.00469349u^{44} + \cdots + 16.9695u + 15.6183 \\ 0.00144541u^{45} - 0.00363803u^{44} + \cdots + 12.3847u + 6.56682 \end{pmatrix}$$
$$a_{12} = \begin{pmatrix} -0.00398318u^{45} + 0.00931129u^{44} + \cdots - 34.5587u - 20.7912 \\ -0.000496329u^{45} + 0.000994531u^{44} + \cdots - 6.30884u - 5.67547 \end{pmatrix}$$
$$a_5 = \begin{pmatrix} 0.00412015u^{45} - 0.0103795u^{44} + \cdots + 41.9047u + 14.6677 \\ 0.000976621u^{45} - 0.00236780u^{44} + \cdots + 11.0461u + 5.89430 \end{pmatrix}$$
$$a_2 = \begin{pmatrix} -0.00289423u^{45} + 0.00709969u^{44} + \cdots - 29.5330u - 10.4974 \\ -0.000537120u^{45} + 0.00126553u^{44} + \cdots - 6.34240u - 3.78873 \end{pmatrix}$$
$$a_4 = \begin{pmatrix} 0.00382997u^{45} - 0.00995571u^{44} + \cdots + 40.6638u + 12.6470 \\ 0.00116221u^{45} - 0.00292917u^{44} + \cdots + 9.48770u + 4.47069 \end{pmatrix}$$
$$a_{10} = \begin{pmatrix} -0.00461706u^{45} + 0.0113680u^{44} + \cdots - 34.2999u - 16.9762 \\ 0.00113021u^{45} - 0.00305123u^{44} + \cdots + 8.04999u + 1.86051 \end{pmatrix}$$
$$a_1 = \begin{pmatrix} -0.00527624u^{45} + 0.0130113u^{44} + \cdots - 46.7854u - 17.7735 \\ 0.000580431u^{45} - 0.00159375u^{44} + \cdots + 1.15606u - 0.758198 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= 0.00495504u^{45} - 0.00970261u^{44} + \cdots + 38.8323u + 37.7445$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$(u^{23}+26u^{22}+\cdots-7u+1)^2$
c_2, c_4	$(u^{23}-4u^{22}+\cdots-3u-1)^2$
c_3, c_7	$(u^{23}+3u^{22}+\cdots+36u-8)^2$
c_5, c_8	$u^{46}+6u^{45}+\cdots+116u+17$
c_6, c_9	$u^{46}+2u^{45}+\cdots-9446u+2543$
c_{10}, c_{12}	$u^{46}-3u^{44}+\cdots-76140u+32521$
c_{11}	$(u^{23}-10u^{22}+\cdots+4u^2+1)^2$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$(y^{23} - 54y^{22} + \cdots - 215y - 1)^2$
c_2, c_4	$(y^{23} - 26y^{22} + \cdots - 7y - 1)^2$
c_3, c_7	$(y^{23} + 21y^{22} + \cdots - 48y - 64)^2$
c_5, c_8	$y^{46} - 10y^{45} + \cdots + 3136y + 289$
c_6, c_9	$y^{46} - 10y^{45} + \cdots - 111757896y + 6466849$
c_{10}, c_{12}	$y^{46} - 6y^{45} + \cdots + 636394872y + 1057615441$
c_{11}	$(y^{23} + 20y^{21} + \cdots - 8y - 1)^2$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.938998 + 0.344976I$ $a = -2.24368 + 0.34394I$ $b = -2.40240 - 0.99716I$	$-1.23158 - 3.46001I$	$-0.93966 + 11.94434I$
$u = 0.938998 - 0.344976I$ $a = -2.24368 - 0.34394I$ $b = -2.40240 + 0.99716I$	$-1.23158 + 3.46001I$	$-0.93966 - 11.94434I$
$u = 0.381487 + 0.925362I$ $a = 0.036904 - 0.397055I$ $b = -0.308362 + 0.632471I$	$0.22577 - 2.35596I$	$1.37102 + 5.00512I$
$u = 0.381487 - 0.925362I$ $a = 0.036904 + 0.397055I$ $b = -0.308362 - 0.632471I$	$0.22577 + 2.35596I$	$1.37102 - 5.00512I$
$u = -0.662967 + 0.741919I$ $a = -0.882738 + 0.492316I$ $b = 0.019759 + 1.137980I$	$0.22577 - 2.35596I$	$1.37102 + 5.00512I$
$u = -0.662967 - 0.741919I$ $a = -0.882738 - 0.492316I$ $b = 0.019759 - 1.137980I$	$0.22577 + 2.35596I$	$1.37102 - 5.00512I$
$u = -0.776430 + 0.599101I$ $a = 0.64174 - 1.41107I$ $b = -0.331275 + 0.637663I$	$-9.93186 + 9.38993I$	$-5.00822 - 8.89816I$
$u = -0.776430 - 0.599101I$ $a = 0.64174 + 1.41107I$ $b = -0.331275 - 0.637663I$	$-9.93186 - 9.38993I$	$-5.00822 + 8.89816I$
$u = -0.347658 + 0.962709I$ $a = -0.094250 - 0.137661I$ $b = -0.617430 + 0.174037I$	3.29942	$11.64034 + 0.I$
$u = -0.347658 - 0.962709I$ $a = -0.094250 + 0.137661I$ $b = -0.617430 - 0.174037I$	3.29942	$11.64034 + 0.I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.363894 + 0.859272I$ $a = 0.961328 - 0.913318I$ $b = 0.081085 + 0.409837I$	$0.07682 - 4.67687I$	$-2.82043 + 11.56965I$
$u = 0.363894 - 0.859272I$ $a = 0.961328 + 0.913318I$ $b = 0.081085 - 0.409837I$	$0.07682 + 4.67687I$	$-2.82043 - 11.56965I$
$u = -0.576444 + 0.916663I$ $a = -3.57574 + 2.35289I$ $b = 3.83467 + 2.38953I$	$-1.23158 + 3.46001I$	$-0.93966 - 11.94434I$
$u = -0.576444 - 0.916663I$ $a = -3.57574 - 2.35289I$ $b = 3.83467 - 2.38953I$	$-1.23158 - 3.46001I$	$-0.93966 + 11.94434I$
$u = 0.091395 + 1.210170I$ $a = -0.143737 + 0.825821I$ $b = -0.195131 + 0.246758I$	$-6.90053 - 6.33030I$	$-5.55743 + 6.60020I$
$u = 0.091395 - 1.210170I$ $a = -0.143737 - 0.825821I$ $b = -0.195131 - 0.246758I$	$-6.90053 + 6.33030I$	$-5.55743 - 6.60020I$
$u = -0.642034 + 0.452369I$ $a = -0.21983 + 1.87152I$ $b = 1.23526 - 0.94866I$	$-4.25470 + 2.83401I$	$-16.2136 - 5.6542I$
$u = -0.642034 - 0.452369I$ $a = -0.21983 - 1.87152I$ $b = 1.23526 + 0.94866I$	$-4.25470 - 2.83401I$	$-16.2136 + 5.6542I$
$u = 0.669574 + 1.086330I$ $a = -0.208906 - 0.373689I$ $b = 0.927797 + 0.477174I$	$0.78715 - 2.82758I$	$2.28819 - 1.37730I$
$u = 0.669574 - 1.086330I$ $a = -0.208906 + 0.373689I$ $b = 0.927797 - 0.477174I$	$0.78715 + 2.82758I$	$2.28819 + 1.37730I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-1.046560+0.783431I$ $a=\ 0.59848-1.43771I$ $b=-1.59045+0.05140I$	$-12.8626+6.8428I$	$-11.21020-4.32033I$
$u=-1.046560-0.783431I$ $a=\ 0.59848+1.43771I$ $b=-1.59045-0.05140I$	$-12.8626-6.8428I$	$-11.21020+4.32033I$
$u=\ 0.625428+0.116207I$ $a=-0.714645+0.198843I$ $b=\ 1.353840-0.397532I$	$-5.87167+0.65487I$	$-18.5419-8.9539I$
$u=\ 0.625428-0.116207I$ $a=-0.714645-0.198843I$ $b=\ 1.353840+0.397532I$	$-5.87167-0.65487I$	$-18.5419+8.9539I$
$u=-0.548542+0.193866I$ $a=-0.45786+1.86963I$ $b=-0.184586-1.004710I$	$-2.99002+3.94578I$	$-4.9106-15.5031I$
$u=-0.548542-0.193866I$ $a=-0.45786-1.86963I$ $b=-0.184586+1.004710I$	$-2.99002-3.94578I$	$-4.9106+15.5031I$
$u=-1.24048+0.78112I$ $a=-0.03322-1.87174I$ $b=-3.56571-0.92903I$	$0.07682+4.67687I$	$0.-11.56965I$
$u=-1.24048-0.78112I$ $a=-0.03322+1.87174I$ $b=-3.56571+0.92903I$	$0.07682-4.67687I$	$0.+11.56965I$
$u=\ 0.467204+0.217984I$ $a=\ 1.94284+2.82388I$ $b=-0.202604-0.456157I$	$-4.75468-2.62879I$	$-2.77736+1.99528I$
$u=\ 0.467204-0.217984I$ $a=\ 1.94284-2.82388I$ $b=-0.202604+0.456157I$	$-4.75468+2.62879I$	$-2.77736-1.99528I$

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u=-0.428413+0.172818I$ $a=3.71471-1.22148I$ $b=0.621273-1.245390I$	$0.78715+2.82758I$	$2.28819+1.37730I$
$u=-0.428413-0.172818I$ $a=3.71471+1.22148I$ $b=0.621273+1.245390I$	$0.78715-2.82758I$	$2.28819-1.37730I$
$u=0.35071+1.65209I$ $a=0.0912328+0.0808853I$ $b=-0.29070-1.43919I$	$-4.75468-2.62879I$	0
$u=0.35071-1.65209I$ $a=0.0912328-0.0808853I$ $b=-0.29070+1.43919I$	$-4.75468+2.62879I$	0
$u=-1.85979+1.16230I$ $a=-0.246221+0.939586I$ $b=3.32130+1.56395I$	$-6.90053+6.33030I$	0
$u=-1.85979-1.16230I$ $a=-0.246221-0.939586I$ $b=3.32130-1.56395I$	$-6.90053-6.33030I$	0
$u=1.70741+1.40554I$ $a=0.358502+0.842210I$ $b=-3.51166+1.04732I$	$-4.25470+2.83401I$	0
$u=1.70741-1.40554I$ $a=0.358502-0.842210I$ $b=-3.51166-1.04732I$	$-4.25470-2.83401I$	0
$u=1.43109+1.69613I$ $a=0.593848+0.717598I$ $b=-3.15094+0.70927I$	$-9.93186-9.38993I$	0
$u=1.43109-1.69613I$ $a=0.593848-0.717598I$ $b=-3.15094-0.70927I$	$-9.93186+9.38993I$	0

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.76806 + 1.35630I$ $a = -0.392722 - 0.812608I$ $b = 2.93041 - 1.33454I$	$-2.99002 - 3.94578I$	0
$u = 1.76806 - 1.35630I$ $a = -0.392722 + 0.812608I$ $b = 2.93041 + 1.33454I$	$-2.99002 + 3.94578I$	0
$u = 2.24798 + 0.96891I$ $a = -0.049286 - 0.718312I$ $b = 3.40524 - 1.44518I$	$-12.8626 + 6.8428I$	0
$u = 2.24798 - 0.96891I$ $a = -0.049286 + 0.718312I$ $b = 3.40524 + 1.44518I$	$-12.8626 - 6.8428I$	0
$u = -1.91392 + 1.52870I$ $a = 0.405621 - 0.097399I$ $b = 1.62062 - 2.87145I$	$-5.87167 + 0.65487I$	0
$u = -1.91392 - 1.52870I$ $a = 0.405621 + 0.097399I$ $b = 1.62062 + 2.87145I$	$-5.87167 - 0.65487I$	0

III. $\boldsymbol{I_3^u = \langle u^3 + 3u^2 + 4b + 2u + 1,\ -3u^3 - u^2 + 4a - 2u + 5,\ u^4 + u^2 - u + 1\rangle}$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} \frac{3}{4}u^3 + \frac{1}{4}u^2 + \frac{1}{2}u - \frac{5}{4} \\ -\frac{1}{4}u^3 - \frac{3}{4}u^2 - \frac{1}{2}u - \frac{1}{4} \end{pmatrix}$$

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

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

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

$$a_{12} = \begin{pmatrix} u^3 + u^2 \\ u^2 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u^3 \\ -u^2 + u - 1 \end{pmatrix}$$

$$a_2 = \begin{pmatrix} \frac{7}{4}u^3 + \frac{1}{4}u^2 + \frac{1}{2}u - \frac{5}{4} \\ -\frac{1}{4}u^3 + \frac{1}{4}u^2 - \frac{3}{2}u + \frac{3}{4} \end{pmatrix}$$

$$a_4 = \begin{pmatrix} \frac{3}{4}u^3 + \frac{1}{4}u^2 + \frac{1}{2}u - \frac{5}{4} \\ -\frac{1}{4}u^3 - \frac{3}{4}u^2 - \frac{1}{2}u - \frac{1}{4} \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u \\ u^3 + u \end{pmatrix}$$

$$a_1 = \begin{pmatrix} u^3 \\ u^2 - u + 1 \end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= \frac{39}{16}u^3 + \frac{77}{16}u^2 + \frac{19}{8}u - \frac{149}{16}$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_4	$(y-1)^4$
c_3, c_7	y^4
c_5, c_8	$y^4+2y^3+7y^2+5y+1$
c_6, c_9, c_{10} c_{12}	$y^4+2y^3+3y^2+y+1$
c_{11}	$y^4-y^3+2y^2+7y+4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.547424 + 0.585652I$ $a = -1.28654 + 0.69736I$ $b = -0.391417 - 0.855136I$	$-2.62503 - 1.39709I$	$-9.19395 + 5.27044I$
$u = 0.547424 - 0.585652I$ $a = -1.28654 - 0.69736I$ $b = -0.391417 + 0.855136I$	$-2.62503 + 1.39709I$	$-9.19395 - 5.27044I$
$u = -0.547424 + 1.120870I$ $a = -0.338459 - 0.046758I$ $b = 0.266417 + 0.460085I$	$0.98010 + 7.64338I$	$-10.58730 - 4.22005I$
$u = -0.547424 - 1.120870I$ $a = -0.338459 + 0.046758I$ $b = 0.266417 - 0.460085I$	$0.98010 - 7.64338I$	$-10.58730 + 4.22005I$

IV.

$$I^u_4 = \langle -4u^{14}-2u^{13}+\cdots+b-5,\ -2u^{14}-u^{13}+\cdots+a-1,\ u^{15}-3u^{13}+\cdots+3u-1\rangle$$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix}0\\u\end{pmatrix}$$

$$a_3 = \begin{pmatrix}2u^{14}+u^{13}+\cdots-3u+1\\4u^{14}+2u^{13}+\cdots-11u+5\end{pmatrix}$$

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

$$a_8 = \begin{pmatrix}u\\-u^{14}+3u^{12}+\cdots+2u-3\end{pmatrix}$$

$$a_9 = \begin{pmatrix}-u^{14}+3u^{12}+\cdots+3u-3\\-u^{14}+3u^{12}+\cdots+2u-3\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}u^{14}-3u^{12}+\cdots-4u+3\\u^{14}-3u^{12}+\cdots-2u+3\end{pmatrix}$$

$$a_5 = \begin{pmatrix}3u^{14}+u^{13}+\cdots-11u+6\\3u^{14}+u^{13}+\cdots-11u+7\end{pmatrix}$$

$$a_2 = \begin{pmatrix}2u^{14}-6u^{12}+\cdots-6u+4\\3u^{14}+u^{13}+\cdots-9u+6\end{pmatrix}$$

$$a_4 = \begin{pmatrix}5u^{14}+3u^{13}+\cdots-13u+5\\4u^{14}+2u^{13}+\cdots-14u+7\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}u^3\\0\end{pmatrix}$$

$$a_1 = \begin{pmatrix}u^{14}-3u^{12}+\cdots-4u+3\\u^{14}-3u^{12}+\cdots-2u+3\end{pmatrix}$$

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -9u^{14}-12u^{13}+18u^{12}+3u^{11}-57u^{10}+9u^9+81u^8-23u^7-69u^6+49u^5+71u^4-33u^3-20u^2+30u-2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^{15} - 14u^{14} + \cdots + 27u - 1$
c_2	$u^{15} + 4u^{14} + \cdots + 5u - 1$
c_3	$u^{15} - 2u^{14} + \cdots + u - 1$
c_4	$u^{15} - 4u^{14} + \cdots + 5u + 1$
c_5, c_8	$u^{15} - 3u^{14} + \cdots + 3u^2 - 1$
c_6, c_9	$u^{15} - 3u^{13} + \cdots + 3u - 1$
c_7	$u^{15} + 2u^{14} + \cdots + u + 1$
c_{10}, c_{12}	$u^{15} + 6u^{14} + \cdots + 5u + 1$
c_{11}	$u^{15} - 9u^{14} + \cdots - 3u^2 + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^{15} - 22y^{14} + \cdots + 247y - 1$
c_2, c_4	$y^{15} - 14y^{14} + \cdots + 27y - 1$
c_3, c_7	$y^{15} + 6y^{14} + \cdots - 21y - 1$
c_5, c_8	$y^{15} - 5y^{14} + \cdots + 6y - 1$
c_6, c_9	$y^{15} - 6y^{14} + \cdots + 5y - 1$
c_{10}, c_{12}	$y^{15} + 2y^{14} + \cdots - 15y - 1$
c_{11}	$y^{15} - y^{14} + \cdots + 6y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.705269 + 0.671023I$ $a = -1.91716 - 4.45800I$ $b = -4.32167 + 1.98193I$	$-0.66574 + 3.66922I$	$-23.4278 - 4.1308I$
$u = -0.705269 - 0.671023I$ $a = -1.91716 + 4.45800I$ $b = -4.32167 - 1.98193I$	$-0.66574 - 3.66922I$	$-23.4278 + 4.1308I$
$u = 0.705292 + 0.773370I$ $a = -1.49935 - 0.52629I$ $b = 0.711264 - 1.062020I$	$0.41822 - 3.68052I$	$-1.64123 + 6.14138I$
$u = 0.705292 - 0.773370I$ $a = -1.49935 + 0.52629I$ $b = 0.711264 + 1.062020I$	$0.41822 + 3.68052I$	$-1.64123 - 6.14138I$
$u = -1.095560 + 0.159935I$ $a = 0.03742 - 1.42622I$ $b = -0.305259 - 0.223093I$	$-3.30273 + 3.15661I$	$-6.01525 - 3.84939I$
$u = -1.095560 - 0.159935I$ $a = 0.03742 + 1.42622I$ $b = -0.305259 + 0.223093I$	$-3.30273 - 3.15661I$	$-6.01525 + 3.84939I$
$u = 1.13479$ $a = 0.0880681$ $b = -1.41713$	-5.52469	-6.90180
$u = 0.655711 + 0.316603I$ $a = 0.319019 - 0.248033I$ $b = 1.361690 - 0.044903I$	$2.79458 - 1.83819I$	$3.69149 + 10.41016I$
$u = 0.655711 - 0.316603I$ $a = 0.319019 + 0.248033I$ $b = 1.361690 + 0.044903I$	$2.79458 + 1.83819I$	$3.69149 - 10.41016I$
$u = 0.713404 + 1.059640I$ $a = 0.846522 + 0.167681I$ $b = -0.686002 - 0.092107I$	$-5.32622 - 4.02081I$	$-6.72360 + 8.77622I$

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.713404 - 1.059640I$ $a = 0.846522 - 0.167681I$ $b = -0.686002 + 0.092107I$	$-5.32622 + 4.02081I$	$-6.72360 - 8.77622I$
$u = 0.461092 + 0.464467I$ $a = -0.605558 + 0.197442I$ $b = -1.113150 + 0.171029I$	$1.69267 - 6.59893I$	$3.21319 + 0.18543I$
$u = 0.461092 - 0.464467I$ $a = -0.605558 - 0.197442I$ $b = -1.113150 - 0.171029I$	$1.69267 + 6.59893I$	$3.21319 - 0.18543I$
$u = -1.302070 + 0.416047I$ $a = -0.224921 + 1.360520I$ $b = 0.561688 + 0.716944I$	$-10.94270 + 7.51080I$	$-5.14589 - 4.08277I$
$u = -1.302070 - 0.416047I$ $a = -0.224921 - 1.360520I$ $b = 0.561688 - 0.716944I$	$-10.94270 - 7.51080I$	$-5.14589 + 4.08277I$

V. $\boldsymbol{I_5^u = \langle -u^5 - u^4 - 2u^3 - 2u^2 + b - u - 1,\ -u^5 - 2u^3 - u^2 + a - 2u - 2,\ u^6 + u^5 + 2u^4 + 2u^3 + 2u^2 + 2u + 1 \rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= u^5 + 2u^3 + u^2 + 2u - 3$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_5^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.498832 + 1.001300I$ $a = 0.78492 + 1.30714I$ $b = -1.89744 - 0.20118I$	$-1.37919 - 2.82812I$	$-4.21508 + 1.30714I$
$u = 0.498832 - 1.001300I$ $a = 0.78492 - 1.30714I$ $b = -1.89744 + 0.20118I$	$-1.37919 + 2.82812I$	$-4.21508 - 1.30714I$
$u = -0.284920 + 1.115140I$ $a = 0.430160$ $b = -0.500000 - 0.273346I$	2.75839	$-4.56984 + 0.I$
$u = -0.284920 - 1.115140I$ $a = 0.430160$ $b = -0.500000 + 0.273346I$	2.75839	$-4.56984 + 0.I$
$u = -0.713912 + 0.305839I$ $a = 0.78492 + 1.30714I$ $b = 0.897438 + 0.201182I$	$-1.37919 - 2.82812I$	$-4.21508 + 1.30714I$
$u = -0.713912 - 0.305839I$ $a = 0.78492 - 1.30714I$ $b = 0.897438 - 0.201182I$	$-1.37919 + 2.82812I$	$-4.21508 - 1.30714I$

VI. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$((u-1)^{10})(u^{15}-14u^{14}+\cdots+27u-1)(u^{23}+26u^{22}+\cdots-7u+1)^2$ $\cdot(u^{40}+41u^{39}+\cdots+8641u+256)$
c_2	$((u-1)^{10})(u^{15}+4u^{14}+\cdots+5u-1)(u^{23}-4u^{22}+\cdots-3u-1)^2$ $\cdot(u^{40}-7u^{39}+\cdots-81u+16)$
c_3	$u^{10}(u^{15}-2u^{14}+\cdots+u-1)(u^{23}+3u^{22}+\cdots+36u-8)^2$ $\cdot(u^{40}-5u^{39}+\cdots+1632u+256)$
c_4	$((u+1)^{10})(u^{15}-4u^{14}+\cdots+5u+1)(u^{23}-4u^{22}+\cdots-3u-1)^2$ $\cdot(u^{40}-7u^{39}+\cdots-81u+16)$
c_5	$(u^4+2u^3+3u^2+u+1)(u^6+3u^5+4u^4+2u^3+1)$ $\cdot(u^{15}-3u^{14}+\cdots+3u^2-1)(u^{40}+u^{39}+\cdots+2u+1)$ $\cdot(u^{46}+6u^{45}+\cdots+116u+17)$
c_6	$(u^4+u^2-u+1)(u^6+u^5+2u^4+2u^3+2u^2+2u+1)$ $\cdot(u^{15}-3u^{13}+\cdots+3u-1)(u^{40}-4u^{38}+\cdots-97u+17)$ $\cdot(u^{46}+2u^{45}+\cdots-9446u+2543)$
c_7	$u^{10}(u^{15}+2u^{14}+\cdots+u+1)(u^{23}+3u^{22}+\cdots+36u-8)^2$ $\cdot(u^{40}-5u^{39}+\cdots+1632u+256)$
c_8	$(u^4-2u^3+3u^2-u+1)(u^6-3u^5+4u^4-2u^3+1)$ $\cdot(u^{15}-3u^{14}+\cdots+3u^2-1)(u^{40}+u^{39}+\cdots+2u+1)$ $\cdot(u^{46}+6u^{45}+\cdots+116u+17)$
c_9	$(u^4+u^2+u+1)(u^6-u^5+2u^4-2u^3+2u^2-2u+1)$ $\cdot(u^{15}-3u^{13}+\cdots+3u-1)(u^{40}-4u^{38}+\cdots-97u+17)$ $\cdot(u^{46}+2u^{45}+\cdots-9446u+2543)$
c_{10}, c_{12}	$(u^4+u^2+u+1)(u^6-u^5+2u^4-2u^3+2u^2-2u+1)$ $\cdot(u^{15}+6u^{14}+\cdots+5u+1)(u^{40}+4u^{39}+\cdots-3u+1)$ $\cdot(u^{46}-3u^{44}+\cdots-76140u+32521)$
c_{11}	$((u^3-u^2+1)^2)(u^4+3u^3+\cdots+3u+2)(u^{15}-9u^{14}+\cdots-3u^2+1)$ $\cdot((u^{23}-10u^{22}+\cdots+4u^2+1)^2)(u^{40}+25u^{39}+\cdots+36u+4)$

VII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y-1)^{10})(y^{15}-22y^{14}+\cdots+247y-1)$ $\cdot(y^{23}-54y^{22}+\cdots-215y-1)^2$ $\cdot(y^{40}-77y^{39}+\cdots-6662529y+65536)$
c_2, c_4	$((y-1)^{10})(y^{15}-14y^{14}+\cdots+27y-1)(y^{23}-26y^{22}+\cdots-7y-1)^2$ $\cdot(y^{40}-41y^{39}+\cdots-8641y+256)$
c_3, c_7	$y^{10}(y^{15}+6y^{14}+\cdots-21y-1)(y^{23}+21y^{22}+\cdots-48y-64)^2$ $\cdot(y^{40}+27y^{39}+\cdots-226304y+65536)$
c_5, c_8	$(y^4+2y^3+7y^2+5y+1)(y^6-y^5+4y^4-2y^3+8y^2+1)$ $\cdot(y^{15}-5y^{14}+\cdots+6y-1)(y^{40}+17y^{39}+\cdots+40y+1)$ $\cdot(y^{46}-10y^{45}+\cdots+3136y+289)$
c_6, c_9	$(y^4+2y^3+3y^2+y+1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot(y^{15}-6y^{14}+\cdots+5y-1)(y^{40}-8y^{39}+\cdots-4275y+289)$ $\cdot(y^{46}-10y^{45}+\cdots-111757896y+6466849)$
c_{10}, c_{12}	$(y^4+2y^3+3y^2+y+1)(y^6+3y^5+4y^4+2y^3+1)$ $\cdot(y^{15}+2y^{14}+\cdots-15y-1)(y^{40}-40y^{39}+\cdots-15y+1)$ $\cdot(y^{46}-6y^{45}+\cdots+636394872y+1057615441)$
c_{11}	$((y^3-y^2+2y-1)^2)(y^4-y^3+2y^2+7y+4)(y^{15}-y^{14}+\cdots+6y-1)$ $\cdot((y^{23}+20y^{21}+\cdots-8y-1)^2)(y^{40}-y^{39}+\cdots+1144y+16)$