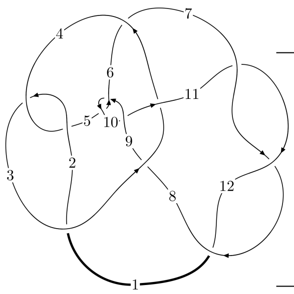
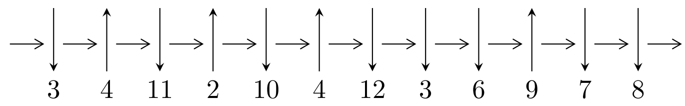
$12n_{0273}$ ($K12n_{0273}$)



A knot diagram[1]

Linearized knot diagam



Solving Sequence

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

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

$$\begin{aligned}
I^u_1 = \langle & -5u^7 - 12u^6 + 30u^5 + 104u^4 + 50u^3 - 36u^2 + 4b + 4u + 12, \\
& 6u^7 + 15u^6 - 36u^5 - 130u^4 - 62u^3 + 54u^2 + 4a - 4u - 20, \\
& u^8 + 4u^7 - 2u^6 - 30u^5 - 44u^4 - 12u^3 + 8u^2 - 4u - 4\rangle \\
I^u_2 = \langle & -au + b + 2a - u + 2,\ 2a^2 - au + 2a + u + 3,\ u^2 - 2\rangle \\
I^u_3 = \langle & u^2 + 2b + 2a - 4u + 2,\ 4u^2a + 2a^2 - 12au - u^2 + 6a + 7u - 6,\ u^3 - 4u^2 + 4u - 2\rangle \\
I^u_4 = \langle & 2b + 2a + u + 2,\ 2a^2 + 2au + 2a + u + 3,\ u^2 - 2\rangle
\end{aligned}$$

$$\begin{aligned}
I^v_1 &= \langle a,\ b^2 - b + 1,\ v + 1\rangle \\
I^v_2 &= \langle a,\ b + v - 1,\ v^2 - v + 1\rangle
\end{aligned}$$

* 6 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 26 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. $I_1^u = \langle -5u^7-12u^6+\cdots+4b+12,\ 6u^7+15u^6+\cdots+4a-20,\ u^8+4u^7+\cdots-4u-4\rangle$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix}1\\0\end{pmatrix}$$

$$a_{12} = \begin{pmatrix}1\\u^2\end{pmatrix}$$

$$a_8 = \begin{pmatrix}-u\\-u^3+u\end{pmatrix}$$

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

$$a_4 = \begin{pmatrix}-\frac{3}{2}u^7-\frac{15}{4}u^6+\cdots+u+5\\\frac{5}{4}u^7+3u^6+\cdots-u-3\end{pmatrix}$$

$$a_3 = \begin{pmatrix}-\frac{1}{4}u^7-\frac{3}{4}u^6+\cdots-\frac{9}{2}u^2+2\\\frac{5}{4}u^7+3u^6+\cdots-u-3\end{pmatrix}$$

$$a_9 = \begin{pmatrix}-\frac{9}{4}u^7-\frac{23}{4}u^6+\cdots-\frac{25}{2}u^2+6\\\frac{3}{4}u^7+2u^6-4u^5-17u^4-\frac{23}{2}u^3+4u^2-2\end{pmatrix}$$

$$a_2 = \begin{pmatrix}\frac{5}{4}u^7+\frac{11}{4}u^6+\cdots-u-2\\\frac{3}{4}u^7+2u^6+\cdots-u-2\end{pmatrix}$$

$$a_5 = \begin{pmatrix}-u^7-2u^6+6u^5+19u^4+8u^3-9u^2+3\\-u^4+2u^2\end{pmatrix}$$

$$a_6 = \begin{pmatrix}3u^7+\frac{31}{4}u^6+\cdots-2u-9\\-\frac{3}{4}u^7-2u^6+\cdots+u+2\end{pmatrix}$$

$$a_{10} = \begin{pmatrix}-\frac{1}{2}u^7-\frac{5}{4}u^6+\cdots-\frac{5}{2}u^2+2\\\frac{1}{4}u^7+u^6-u^5-8u^4-\frac{13}{2}u^3+2u^2-1\end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= -2u^7-4u^6+13u^5+35u^4+8u^3-6u^2+18u-2$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^8 - 4u^7 - 142u^6 - 1344u^5 + 923u^4 - 512u^3 + 178u^2 - 36u + 1$
c_2, c_4, c_{10}	$u^8 - 2u^6 + 40u^5 - 73u^4 + 56u^3 - 18u^2 + 1$
c_3, c_5, c_9	$u^8 - 6u^5 - u^4 - 6u^3 - 2u^2 - 2u - 1$
c_6	$u^8 - 6u^7 + 22u^6 - 102u^5 + 297u^4 - 492u^3 + 402u^2 - 108u - 19$
c_7, c_{11}, c_{12}	$u^8 + 4u^7 - 2u^6 - 30u^5 - 44u^4 - 12u^3 + 8u^2 - 4u - 4$
c_8	$u^8 - 16u^7 + 72u^6 - 4u^5 - 371u^4 - 426u^3 + 442u^2 + 68u - 97$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^8 - 300y^7 + \cdots - 940y + 1$
c_2, c_4, c_{10}	$y^8 - 4y^7 - 142y^6 - 1344y^5 + 923y^4 - 512y^3 + 178y^2 - 36y + 1$
c_3, c_5, c_9	$y^8 - 2y^6 - 40y^5 - 73y^4 - 56y^3 - 18y^2 + 1$
c_6	$y^8 + 8y^7 + \cdots - 26940y + 361$
c_7, c_{11}, c_{12}	$y^8 - 20y^7 + 156y^6 - 612y^5 + 1208y^4 - 1072y^3 + 320y^2 - 80y + 16$
c_8	$y^8 - 112y^7 + \cdots - 90372y + 9409$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.551137$ $a = 0.212410$ $b = 0.424769$	-0.800674	-12.5950
$u = -1.44764 + 0.06689I$ $a = -0.812880 - 0.861044I$ $b = -0.292648 + 0.756441I$	$-4.25535 + 2.66770I$	$-4.04426 - 2.00132I$
$u = -1.44764 - 0.06689I$ $a = -0.812880 + 0.861044I$ $b = -0.292648 - 0.756441I$	$-4.25535 - 2.66770I$	$-4.04426 + 2.00132I$
$u = 0.377266 + 0.364501I$ $a = 1.01991 - 1.65688I$ $b = 0.110704 + 0.754072I$	$1.63452 - 1.28115I$	$0.91619 + 5.71849I$
$u = 0.377266 - 0.364501I$ $a = 1.01991 + 1.65688I$ $b = 0.110704 - 0.754072I$	$1.63452 + 1.28115I$	$0.91619 - 5.71849I$
$u = -2.04666 + 0.56570I$ $a = 0.01556 + 1.77149I$ $b = 0.98351 - 1.43901I$	$13.6112 + 10.0113I$	$-6.52481 - 3.89603I$
$u = -2.04666 - 0.56570I$ $a = 0.01556 - 1.77149I$ $b = 0.98351 + 1.43901I$	$13.6112 - 10.0113I$	$-6.52481 + 3.89603I$
$u = 2.78520$ $a = 1.34242$ $b = -2.02789$	-11.3105	-8.09900

II. $I_2^u = \langle -au + b + 2a - u + 2,\ 2a^2 - au + 2a + u + 3,\ u^2 - 2\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8au + 16a - 8u + 4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_4, c_5, c_9 c_{10}	$(y^2 + y + 1)^2$
c_6, c_8	$y^4 + 6y^3 - y^2 - 30y + 49$
c_7, c_{11}, c_{12}	$(y - 2)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_2^u	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$u = \quad 1.41421$ $a = -0.14645 + 1.47840I$ $b = -0.500000 - 0.866025I$	$-4.93480 - 4.05977I$	$-8.00000 + 6.92820I$
$u = \quad 1.41421$ $a = -0.14645 - 1.47840I$ $b = -0.500000 + 0.866025I$	$-4.93480 + 4.05977I$	$-8.00000 - 6.92820I$
$u = -1.41421$ $a = -0.853553 + 0.253653I$ $b = -0.500000 - 0.866025I$	$-4.93480 - 4.05977I$	$-8.00000 + 6.92820I$
$u = -1.41421$ $a = -0.853553 - 0.253653I$ $b = -0.500000 + 0.866025I$	$-4.93480 + 4.05977I$	$-8.00000 - 6.92820I$

III.

$$\boldsymbol{I_3^u = \langle u^2+2b+2a-4u+2,\ 4u^2a+2a^2-12au-u^2+6a+7u-6,\ u^3-4u^2+4u-2\rangle}$$

(i) Arc colorings

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

$$a_{11} = \begin{pmatrix} 1 \\ 0 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 1 \\ u^2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u \\ -4u^2+5u-2 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} -u^2+1 \\ -10u^2+14u-8 \end{pmatrix}$$

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

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

$$a_9 = \begin{pmatrix} au+u^2-a-2u+2 \\ -u^2a+2au-\frac{3}{2}u^2-a+3u-1 \end{pmatrix}$$

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

$$a_5 = \begin{pmatrix} -4u^2a+8au+5u^2-4a-10u+7 \\ -10u^2+14u-8 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 2u^2a-5au+\frac{3}{2}u^2+4a-u-1 \\ -2u^2a+4au-\frac{3}{2}u^2-3a+2u+1 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -\frac{3}{2}u^2a+au-u^2-a+\frac{5}{2}u \\ u^2a-\frac{7}{2}u^2-a+7u-4 \end{pmatrix}$$

(ii) Obstruction class $= -1$

(iii) Cusp Shapes $= u^2-4u-4$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
c_1	$u^6 + 43u^5 + 630u^4 + 2111u^3 + 5110u^2 + 5291u + 2401$
c_2, c_4, c_{10}	$u^6 + u^5 + 22u^4 - 19u^3 + 54u^2 + u + 49$
c_3, c_5, c_9	$u^6 + 3u^5 + 4u^4 - u^3 - u + 7$
c_6	$u^6 + 8u^5 + 37u^4 + 56u^3 + 31u^2 + 8u + 47$
c_7, c_{11}, c_{12}	$(u^3 - 4u^2 + 4u - 2)^2$
c_8	$u^6 + 16u^5 + 75u^4 - 40u^3 - 49u^2 + 12u + 149$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1	$y^6 - 589y^5 + \cdots - 3456461y + 5764801$
c_2, c_4, c_{10}	$y^6 + 43y^5 + 630y^4 + 2111y^3 + 5110y^2 + 5291y + 2401$
c_3, c_5, c_9	$y^6 - y^5 + 22y^4 + 19y^3 + 54y^2 - y + 49$
c_6	$y^6 + 10y^5 + 535y^4 - 876y^3 + 3543y^2 + 2850y + 2209$
c_7, c_{11}, c_{12}	$(y^3 - 8y^2 - 4)^2$
c_8	$y^6 - 106y^5 + 6807y^4 - 9036y^3 + 25711y^2 - 14746y + 22201$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_3^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 0.580357 + 0.606291I$ $a = 0.967369 + 0.278463I$ $b = -0.791268 + 0.582254I$	$-0.96847 + 3.17729I$	$-6.35220 - 1.72143I$
$u = 0.580357 + 0.606291I$ $a = -0.42368 + 1.95182I$ $b = 0.599780 - 1.091110I$	$-0.96847 + 3.17729I$	$-6.35220 - 1.72143I$
$u = 0.580357 - 0.606291I$ $a = 0.967369 - 0.278463I$ $b = -0.791268 - 0.582254I$	$-0.96847 - 3.17729I$	$-6.35220 + 1.72143I$
$u = 0.580357 - 0.606291I$ $a = -0.42368 - 1.95182I$ $b = 0.599780 + 1.091110I$	$-0.96847 - 3.17729I$	$-6.35220 + 1.72143I$
$u = 2.83929$ $a = -1.04369 + 1.34813I$ $b = 1.69149 - 1.34813I$	11.8065	-7.29560
$u = 2.83929$ $a = -1.04369 - 1.34813I$ $b = 1.69149 + 1.34813I$	11.8065	-7.29560

IV. $\boldsymbol{I_4^u = \langle 2b + 2a + u + 2,\ 2a^2 + 2au + 2a + u + 3,\ u^2 - 2\rangle}$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -8$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
c_1, c_2, c_3 c_4, c_5, c_9 c_{10}	$(y^2 + y + 1)^2$
c_6, c_8	$y^4 + 14y^2 + 48y + 49$
c_7, c_{11}, c_{12}	$(y - 2)^4$

(vi) Complex Volumes and Cusp Shapes

Solutions to I_4^u	$\sqrt{-1}(\mathrm{vol}+\sqrt{-1}CS)$	Cusp shape
$u = 1.41421$ $a = -1.20711 + 0.86603I$ $b = -0.500000 - 0.866025I$	-4.93480	-8.00000
$u = 1.41421$ $a = -1.20711 - 0.86603I$ $b = -0.500000 + 0.866025I$	-4.93480	-8.00000
$u = -1.41421$ $a = 0.207107 + 0.866025I$ $b = -0.500000 - 0.866025I$	-4.93480	-8.00000
$u = -1.41421$ $a = 0.207107 - 0.866025I$ $b = -0.500000 + 0.866025I$	-4.93480	-8.00000

V. $I_1^v = \langle a,\ b^2 - b + 1,\ v + 1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= 8b - 4$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to I_1^v	$\sqrt{-1}(\mathrm{vol} + \sqrt{-1}CS)$	Cusp shape
$v = -1.00000$ $a = 0$ $b = 0.500000 + 0.866025I$	$-4.05977I$	$0. + 6.92820I$
$v = -1.00000$ $a = 0$ $b = 0.500000 - 0.866025I$	$4.05977I$	$0. - 6.92820I$

VI. $I_2^v = \langle a,\ b+v-1,\ v^2-v+1\rangle$

(i) Arc colorings

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

(ii) Obstruction class $= 1$

(iii) Cusp Shapes $= -6$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

	Solutions to I_2^v	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$v =$	$0.500000 + 0.866025I$		
$a =$	0	0	-6.00000
$b =$	$0.500000 - 0.866025I$		
$v =$	$0.500000 - 0.866025I$		
$a =$	0	0	-6.00000
$b =$	$0.500000 + 0.866025I$		

VII. u-Polynomials

Crossings	u-Polynomials at each crossing
c_1	$(u^2-u+1)^6$ $\cdot(u^6+43u^5+630u^4+2111u^3+5110u^2+5291u+2401)$ $\cdot(u^8-4u^7-142u^6-1344u^5+923u^4-512u^3+178u^2-36u+1)$
c_2	$(u^2+u+1)^6(u^6+u^5+22u^4-19u^3+54u^2+u+49)$ $\cdot(u^8-2u^6+40u^5-73u^4+56u^3-18u^2+1)$
c_3, c_9	$(u^2-u+1)^4(u^2+u+1)^2(u^6+3u^5+4u^4-u^3-u+7)$ $\cdot(u^8-6u^5-u^4-6u^3-2u^2-2u-1)$
c_4, c_{10}	$(u^2-u+1)^6(u^6+u^5+22u^4-19u^3+54u^2+u+49)$ $\cdot(u^8-2u^6+40u^5-73u^4+56u^3-18u^2+1)$
c_5	$(u^2-u+1)^2(u^2+u+1)^4(u^6+3u^5+4u^4-u^3-u+7)$ $\cdot(u^8-6u^5-u^4-6u^3-2u^2-2u-1)$
c_6	$((u-1)^2)(u^2+u+1)(u^4-4u^3+\cdots-8u+7)(u^4+2u^3+\cdots+10u+7)$ $\cdot(u^6+8u^5+37u^4+56u^3+31u^2+8u+47)$ $\cdot(u^8-6u^7+22u^6-102u^5+297u^4-492u^3+402u^2-108u-19)$
c_7, c_{11}, c_{12}	$u^4(u^2-2)^4(u^3-4u^2+4u-2)^2$ $\cdot(u^8+4u^7-2u^6-30u^5-44u^4-12u^3+8u^2-4u-4)$
c_8	$((u-1)^2)(u^2+u+1)(u^4-2u^3+\cdots-10u+7)(u^4+4u^3+\cdots+8u+7)$ $\cdot(u^6+16u^5+75u^4-40u^3-49u^2+12u+149)$ $\cdot(u^8-16u^7+72u^6-4u^5-371u^4-426u^3+442u^2+68u-97)$

VIII. Riley Polynomials

Crossings	Riley Polynomials at each crossing
c_1	$((y^2+y+1)^6)(y^6-589y^5+\cdots-3456461y+5764801)$ $\cdot(y^8-300y^7+\cdots-940y+1)$
c_2, c_4, c_{10}	$(y^2+y+1)^6$ $\cdot(y^6+43y^5+630y^4+2111y^3+5110y^2+5291y+2401)$ $\cdot(y^8-4y^7-142y^6-1344y^5+923y^4-512y^3+178y^2-36y+1)$
c_3, c_5, c_9	$(y^2+y+1)^6(y^6-y^5+22y^4+19y^3+54y^2-y+49)$ $\cdot(y^8-2y^6-40y^5-73y^4-56y^3-18y^2+1)$
c_6	$((y-1)^2)(y^2+y+1)(y^4+14y^2+48y+49)(y^4+6y^3+\cdots-30y+49)$ $\cdot(y^6+10y^5+535y^4-876y^3+3543y^2+2850y+2209)$ $\cdot(y^8+8y^7+\cdots-26940y+361)$
c_7, c_{11}, c_{12}	$y^4(y-2)^8(y^3-8y^2-4)^2$ $\cdot(y^8-20y^7+156y^6-612y^5+1208y^4-1072y^3+320y^2-80y+16)$
c_8	$((y-1)^2)(y^2+y+1)(y^4+14y^2+48y+49)(y^4+6y^3+\cdots-30y+49)$ $\cdot(y^6-106y^5+6807y^4-9036y^3+25711y^2-14746y+22201)$ $\cdot(y^8-112y^7+\cdots-90372y+9409)$