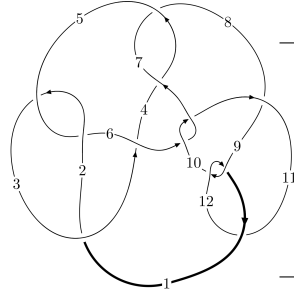
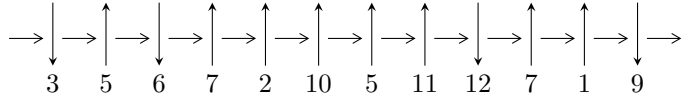


12n<sub>0015</sub> (K12n<sub>0015</sub>)



A knot diagram<sup>1</sup>

**Linearized knot diagram**



**Solving Sequence**

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

**Ideals for irreducible components<sup>2</sup> of  $X_{\text{par}}$**

$$I_1^u = \langle 1.50022 \times 10^{125} u^{64} + 4.36424 \times 10^{125} u^{63} + \dots + 3.54215 \times 10^{125} b - 7.96745 \times 10^{124}, \\ - 2.95873 \times 10^{125} u^{64} - 9.80937 \times 10^{125} u^{63} + \dots + 3.54215 \times 10^{125} a - 9.49669 \times 10^{125}, u^{65} + 3u^{64} + \dots - \\ I_2^u = \langle u^3 a - u^2 a + u^3 - a u - u^2 + b - a - u - 1, u^4 a - 2u^3 a - 4u^4 - u^2 a + 5u^3 + a^2 + 3a u + 8u^2 + a - 8u - 3, \\ u^5 - u^4 - 2u^3 + u^2 + u + 1 \rangle$$

\* 2 irreducible components of  $\dim_{\mathbb{C}} = 0$ , with total 75 representations.

<sup>1</sup>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>).

<sup>2</sup>All coefficients of polynomials are rational numbers. But the coefficients are sometimes approximated in decimal forms when there is not enough margin.

$$\mathbf{I. } I_1^u = \langle 1.50 \times 10^{125} u^{64} + 4.36 \times 10^{125} u^{63} + \dots + 3.54 \times 10^{125} b - 7.97 \times 10^{124}, -2.96 \times 10^{125} u^{64} - 9.81 \times 10^{125} u^{63} + \dots + 3.54 \times 10^{125} a - 9.50 \times 10^{125}, u^{65} + 3u^{64} + \dots - u^2 + 1 \rangle$$

(i) Arc colorings

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

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

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

$$a_2 = \begin{pmatrix} 0.835293u^{64} + 2.76933u^{63} + \dots + 1.71444u + 2.68105 \\ -0.423534u^{64} - 1.23209u^{63} + \dots + 1.25883u + 0.224932 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} 0.345381u^{64} + 0.473837u^{63} + \dots - 1.23941u + 2.97738 \\ -0.310281u^{64} - 0.952665u^{63} + \dots + 1.07920u - 0.578999 \end{pmatrix}$$

$$a_3 = \begin{pmatrix} 0.154488u^{64} - 0.107654u^{63} + \dots - 1.02424u + 2.50407 \\ -0.0606760u^{64} - 0.279839u^{63} + \dots + 0.948980u - 0.490002 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.206883u^{64} + 0.609928u^{63} + \dots - 1.00346u - 0.732547 \\ -0.383905u^{64} - 1.05169u^{63} + \dots + 1.00690u - 0.344765 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.767182u^{64} + 2.19356u^{63} + \dots - 1.80348u - 0.398504 \\ 0.560299u^{64} + 1.58363u^{63} + \dots - 0.800020u + 0.334043 \end{pmatrix}$$

$$a_{12} = \begin{pmatrix} 0.376922u^{64} + 0.519176u^{63} + \dots + 2.21285u + 0.877994 \\ 0.402208u^{64} + 0.524302u^{63} + \dots + 1.79239u - 0.116295 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 0.215164u^{64} + 0.172185u^{63} + \dots - 1.97322u + 2.99408 \\ -0.0606760u^{64} - 0.279839u^{63} + \dots + 0.948980u - 0.490002 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.323109u^{64} + 0.870589u^{63} + \dots - 0.236280u - 0.840533 \\ -0.433466u^{64} - 1.19898u^{63} + \dots + 1.89031u - 0.540767 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes =  $-2.36898u^{64} - 8.01720u^{63} + \dots - 34.4288u - 0.224583$

(iv) u-Polynomials at the component

Crossings	u-Polynomials at each crossing
$c_1$	$u^{65} + 36u^{64} + \dots - 153u - 1$
$c_2, c_5$	$u^{65} + 6u^{64} + \dots - 5u - 1$
$c_3$	$u^{65} - 6u^{64} + \dots - 3141u - 1282$
$c_4, c_7$	$u^{65} + 5u^{64} + \dots - 13312u^2 - 1024$
$c_6, c_{10}$	$u^{65} - 3u^{64} + \dots + u^2 - 1$
$c_8$	$u^{65} + 3u^{64} + \dots + 969u - 578$
$c_9, c_{12}$	$u^{65} - 3u^{64} + \dots + 8u - 1$
$c_{11}$	$u^{65} - 29u^{64} + \dots + 2u + 1$

(v) Riley Polynomials at the component

Crossings	Riley Polynomials at each crossing
$c_1$	$y^{65} - 8y^{64} + \dots + 10327y - 1$
$c_2, c_5$	$y^{65} + 36y^{64} + \dots - 153y - 1$
$c_3$	$y^{65} - 52y^{64} + \dots - 241954815y - 1643524$
$c_4, c_7$	$y^{65} + 55y^{64} + \dots - 27262976y - 1048576$
$c_6, c_{10}$	$y^{65} - 15y^{64} + \dots + 2y - 1$
$c_8$	$y^{65} + 5y^{64} + \dots - 4574003y - 334084$
$c_9, c_{12}$	$y^{65} + 29y^{64} + \dots + 2y - 1$
$c_{11}$	$y^{65} + 17y^{64} + \dots - 142y - 1$

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.628102 + 0.569155I$ $a = -0.40185 + 1.73582I$ $b = 0.448292 + 1.291450I$	$-1.16500 + 7.59687I$	$3.63163 - 10.87893I$
$u = 0.628102 - 0.569155I$ $a = -0.40185 - 1.73582I$ $b = 0.448292 - 1.291450I$	$-1.16500 - 7.59687I$	$3.63163 + 10.87893I$
$u = -0.565212 + 0.623133I$ $a = -0.32719 - 1.87544I$ $b = 0.344749 - 1.222650I$	$-2.37364 - 2.97409I$	$0.03419 + 4.98688I$
$u = -0.565212 - 0.623133I$ $a = -0.32719 + 1.87544I$ $b = 0.344749 + 1.222650I$	$-2.37364 + 2.97409I$	$0.03419 - 4.98688I$
$u = 0.072366 + 0.781453I$ $a = 1.19704 + 1.78785I$ $b = 0.152981 + 0.671120I$	$0.24332 - 1.46975I$	$2.96650 + 0.84122I$
$u = 0.072366 - 0.781453I$ $a = 1.19704 - 1.78785I$ $b = 0.152981 - 0.671120I$	$0.24332 + 1.46975I$	$2.96650 - 0.84122I$
$u = -0.340961 + 0.698038I$ $a = 0.19869 - 2.27298I$ $b = 0.233975 - 0.974531I$	$-1.64164 - 2.15616I$	$-0.38705 + 4.35750I$
$u = -0.340961 - 0.698038I$ $a = 0.19869 + 2.27298I$ $b = 0.233975 + 0.974531I$	$-1.64164 + 2.15616I$	$-0.38705 - 4.35750I$
$u = -0.725228 + 0.278028I$ $a = 1.95932 - 0.44335I$ $b = 0.208955 + 0.909618I$	$-1.41966 - 0.52874I$	$3.13856 + 2.24700I$
$u = -0.725228 - 0.278028I$ $a = 1.95932 + 0.44335I$ $b = 0.208955 - 0.909618I$	$-1.41966 + 0.52874I$	$3.13856 - 2.24700I$

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.765214 + 0.985370I$ $a = -0.15270 - 1.41131I$ $b = -0.264359 - 1.359580I$	$-7.96046 - 6.18775I$	0
$u = -0.765214 - 0.985370I$ $a = -0.15270 + 1.41131I$ $b = -0.264359 + 1.359580I$	$-7.96046 + 6.18775I$	0
$u = -0.855805 + 0.909432I$ $a = 0.197635 + 0.609389I$ $b = -0.821764 + 0.080284I$	$-2.89879 + 3.80873I$	0
$u = -0.855805 - 0.909432I$ $a = 0.197635 - 0.609389I$ $b = -0.821764 - 0.080284I$	$-2.89879 - 3.80873I$	0
$u = 0.897889 + 0.886104I$ $a = 0.138267 - 0.519755I$ $b = -0.856989 + 0.018873I$	$-4.61158 + 1.57498I$	0
$u = 0.897889 - 0.886104I$ $a = 0.138267 + 0.519755I$ $b = -0.856989 - 0.018873I$	$-4.61158 - 1.57498I$	0
$u = -0.977996 + 0.800120I$ $a = 0.160447 + 0.259314I$ $b = -0.781893 - 0.251942I$	$1.27467 - 2.98710I$	0
$u = -0.977996 - 0.800120I$ $a = 0.160447 - 0.259314I$ $b = -0.781893 + 0.251942I$	$1.27467 + 2.98710I$	0
$u = 0.734905 + 0.039492I$ $a = 0.217205 - 0.011467I$ $b = 0.883998 + 0.223037I$	$3.33660 + 2.97737I$	$14.6570 - 4.9725I$
$u = 0.734905 - 0.039492I$ $a = 0.217205 + 0.011467I$ $b = 0.883998 - 0.223037I$	$3.33660 - 2.97737I$	$14.6570 + 4.9725I$

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.677662 + 0.256690I$ $a = -0.554218 - 0.670994I$ $b = 0.850990 - 0.944246I$	$2.13495 - 5.98222I$	$10.3042 + 10.3831I$
$u = -0.677662 - 0.256690I$ $a = -0.554218 + 0.670994I$ $b = 0.850990 + 0.944246I$	$2.13495 + 5.98222I$	$10.3042 - 10.3831I$
$u = -0.697071 + 0.134831I$ $a = -0.208690 - 0.093719I$ $b = 0.865604 - 0.650193I$	$2.94313 - 0.27251I$	$13.63116 + 1.74028I$
$u = -0.697071 - 0.134831I$ $a = -0.208690 + 0.093719I$ $b = 0.865604 + 0.650193I$	$2.94313 + 0.27251I$	$13.63116 - 1.74028I$
$u = 0.783819 + 1.026080I$ $a = -0.143080 + 1.349990I$ $b = -0.323635 + 1.327820I$	$-9.37380 + 0.62790I$	0
$u = 0.783819 - 1.026080I$ $a = -0.143080 - 1.349990I$ $b = -0.323635 - 1.327820I$	$-9.37380 - 0.62790I$	0
$u = 0.583045 + 0.371142I$ $a = -0.94998 + 1.34055I$ $b = 0.642745 + 1.066730I$	$0.97209 + 2.48020I$	$8.17214 - 4.93777I$
$u = 0.583045 - 0.371142I$ $a = -0.94998 - 1.34055I$ $b = 0.642745 - 1.066730I$	$0.97209 - 2.48020I$	$8.17214 + 4.93777I$
$u = 0.980745 + 0.879226I$ $a = -0.009190 - 0.355180I$ $b = -0.952450 + 0.203308I$	$-4.36918 + 4.99205I$	0
$u = 0.980745 - 0.879226I$ $a = -0.009190 + 0.355180I$ $b = -0.952450 - 0.203308I$	$-4.36918 - 4.99205I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.674850$ $a = 0.446292$ $b = 0.463057$	1.16666	8.48480
$u = -1.326940 + 0.154775I$ $a = 0.982376 + 0.410900I$ $b = -0.273052 + 0.826180I$	$1.92758 - 1.33174I$	0
$u = -1.326940 - 0.154775I$ $a = 0.982376 - 0.410900I$ $b = -0.273052 - 0.826180I$	$1.92758 + 1.33174I$	0
$u = 0.580701 + 0.321504I$ $a = 2.76581 + 0.85928I$ $b = 0.345091 - 0.954683I$	$-0.87681 - 4.22656I$	$6.95306 + 2.39808I$
$u = 0.580701 - 0.321504I$ $a = 2.76581 - 0.85928I$ $b = 0.345091 + 0.954683I$	$-0.87681 + 4.22656I$	$6.95306 - 2.39808I$
$u = -1.003250 + 0.884542I$ $a = -0.060369 + 0.304416I$ $b = -0.985091 - 0.260120I$	$-2.47713 - 10.45070I$	0
$u = -1.003250 - 0.884542I$ $a = -0.060369 - 0.304416I$ $b = -0.985091 + 0.260120I$	$-2.47713 + 10.45070I$	0
$u = -0.745935 + 1.160500I$ $a = 0.000884 - 1.252980I$ $b = -0.361004 - 1.170190I$	$-2.81669 + 0.45437I$	0
$u = -0.745935 - 1.160500I$ $a = 0.000884 + 1.252980I$ $b = -0.361004 + 1.170190I$	$-2.81669 - 0.45437I$	0
$u = -1.127810 + 0.820945I$ $a = 1.24601 + 1.23918I$ $b = -0.420609 + 1.227310I$	$-6.79571 - 0.50966I$	0



Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.127810 - 0.820945I$ $a = 1.24601 - 1.23918I$ $b = -0.420609 - 1.227310I$	$-6.79571 + 0.50966I$	0
$u = 0.849131 + 1.120280I$ $a = -0.118188 + 1.192840I$ $b = -0.451043 + 1.242660I$	$-8.41853 - 3.05895I$	0
$u = 0.849131 - 1.120280I$ $a = -0.118188 - 1.192840I$ $b = -0.451043 - 1.242660I$	$-8.41853 + 3.05895I$	0
$u = -0.195377 + 0.553421I$ $a = 1.205400 + 0.389629I$ $b = -0.0029121 + 0.1179000I$	$0.36359 - 1.66193I$	$2.56838 + 3.46511I$
$u = -0.195377 - 0.553421I$ $a = 1.205400 - 0.389629I$ $b = -0.0029121 - 0.1179000I$	$0.36359 + 1.66193I$	$2.56838 - 3.46511I$
$u = 1.12627 + 0.86481I$ $a = 1.18250 - 1.30489I$ $b = -0.470843 - 1.237780I$	$-8.27510 + 6.31962I$	0
$u = 1.12627 - 0.86481I$ $a = 1.18250 + 1.30489I$ $b = -0.470843 + 1.237780I$	$-8.27510 - 6.31962I$	0
$u = 0.534053 + 0.202971I$ $a = -1.58350 + 0.17037I$ $b = 0.633931 + 0.867673I$	$0.62677 + 2.45051I$	$2.30160 - 3.49944I$
$u = 0.534053 - 0.202971I$ $a = -1.58350 - 0.17037I$ $b = 0.633931 - 0.867673I$	$0.62677 - 2.45051I$	$2.30160 + 3.49944I$
$u = -0.88456 + 1.14555I$ $a = -0.116208 - 1.133810I$ $b = -0.494977 - 1.215640I$	$-6.25912 + 8.60016I$	0

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.88456 - 1.14555I$ $a = -0.116208 + 1.133810I$ $b = -0.494977 + 1.215640I$	$-6.25912 - 8.60016I$	0
$u = 1.45538 + 0.10222I$ $a = 0.757445 + 0.377705I$ $b = -0.361366 + 0.750604I$	$5.76923 + 2.96244I$	0
$u = 1.45538 - 0.10222I$ $a = 0.757445 - 0.377705I$ $b = -0.361366 - 0.750604I$	$5.76923 - 2.96244I$	0
$u = 1.11941 + 0.94502I$ $a = 1.03658 - 1.40534I$ $b = -0.576768 - 1.237090I$	$-7.52216 + 10.51980I$	0
$u = 1.11941 - 0.94502I$ $a = 1.03658 + 1.40534I$ $b = -0.576768 + 1.237090I$	$-7.52216 - 10.51980I$	0
$u = -1.11499 + 0.96636I$ $a = 0.99158 + 1.42922I$ $b = -0.608733 + 1.232920I$	$-5.4631 - 16.2041I$	0
$u = -1.11499 - 0.96636I$ $a = 0.99158 - 1.42922I$ $b = -0.608733 - 1.232920I$	$-5.4631 + 16.2041I$	0
$u = -1.17549 + 0.93342I$ $a = 1.01884 + 1.29137I$ $b = -0.543560 + 1.174510I$	$-1.47035 - 7.97117I$	0
$u = -1.17549 - 0.93342I$ $a = 1.01884 - 1.29137I$ $b = -0.543560 - 1.174510I$	$-1.47035 + 7.97117I$	0
$u = -0.039971 + 0.483137I$ $a = 4.26633 + 3.79248I$ $b = 0.520875 + 0.799810I$	$0.42197 + 3.98006I$	$-11.1996 - 14.1267I$

Solutions to $I_1^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.039971 - 0.483137I$		
$a = 4.26633 - 3.79248I$	$0.42197 - 3.98006I$	$-11.1996 + 14.1267I$
$b = 0.520875 - 0.799810I$		
$u = 1.51110 + 0.30215I$		
$a = 0.932692 - 0.595477I$	$5.37755 + 6.09849I$	0
$b = -0.344026 - 0.883021I$		
$u = 1.51110 - 0.30215I$		
$a = 0.932692 + 0.595477I$	$5.37755 - 6.09849I$	0
$b = -0.344026 + 0.883021I$		
$u = 0.199982 + 0.366065I$		
$a = 7.44696 - 1.05122I$	$0.173552 - 0.278194I$	$-17.0776 - 31.8991I$
$b = 0.531360 - 0.882027I$		
$u = 0.199982 - 0.366065I$		
$a = 7.44696 + 1.05122I$	$0.173552 + 0.278194I$	$-17.0776 + 31.8991I$
$b = 0.531360 + 0.882027I$		

$$\text{II. } I_2^u = \langle u^3a - u^2a + u^3 - au - u^2 + b - a - u - 1, u^4a - 4u^4 + \dots + a - 3, u^5 - u^4 - 2u^3 + u^2 + u + 1 \rangle$$

(i) Arc colorings

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

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

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

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

$$a_{11} = \begin{pmatrix} u \\ -u^3 + u \end{pmatrix}$$

$$a_5 = \begin{pmatrix} u^3a + u^4 - u^2a - u^3 - au - 2u^2 + 2u \\ -u^3a + u^2a - u^3 + au + u^2 + a + u \end{pmatrix}$$

$$a_3 = \begin{pmatrix} u^4 - 2u^3 - u^2 + a + 3u \\ -u^3a + u^2a - u^3 + au + u^2 + a + u \end{pmatrix}$$

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

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

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

$$a_4 = \begin{pmatrix} u^3a + u^4 - u^2a - u^3 - au - 2u^2 + 2u \\ -u^3a + u^2a - u^3 + au + u^2 + a + u \end{pmatrix}$$

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

(ii) Obstruction class = 1

$$\text{(iii) Cusp Shapes} = -2u^4a + 6u^3a - u^4 - 4u^2a + 2u^3 - 7au - 4u^2 - 5a + u + 5$$

(iv) u-Polynomials at the component

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

(v) Riley Polynomials at the component

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

(vi) Complex Volumes and Cusp Shapes

Solutions to $I_2^u$	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -1.21774$		
$a = -0.837181 + 0.282010I$	$2.40108 + 2.02988I$	$6.80799 - 4.97460I$
$b = 0.500000 + 0.866025I$		
$u = -1.21774$		
$a = -0.837181 - 0.282010I$	$2.40108 - 2.02988I$	$6.80799 + 4.97460I$
$b = 0.500000 - 0.866025I$		
$u = -0.309916 + 0.549911I$		
$a = 2.00919 + 0.91819I$	$0.329100 + 0.499304I$	$7.97351 - 4.21865I$
$b = 0.500000 + 0.866025I$		
$u = -0.309916 + 0.549911I$		
$a = -1.70942 - 3.06513I$	$0.32910 - 3.56046I$	$-1.93681 + 7.63956I$
$b = 0.500000 - 0.866025I$		
$u = -0.309916 - 0.549911I$		
$a = 2.00919 - 0.91819I$	$0.329100 - 0.499304I$	$7.97351 + 4.21865I$
$b = 0.500000 - 0.866025I$		
$u = -0.309916 - 0.549911I$		
$a = -1.70942 + 3.06513I$	$0.32910 + 3.56046I$	$-1.93681 - 7.63956I$
$b = 0.500000 + 0.866025I$		
$u = 1.41878 + 0.21917I$		
$a = -0.858089 + 0.538616I$	$5.87256 + 6.43072I$	$12.8115 - 8.6504I$
$b = 0.500000 + 0.866025I$		
$u = 1.41878 + 0.21917I$		
$a = -0.604500 - 0.392206I$	$5.87256 + 2.37095I$	$8.34383 + 3.96169I$
$b = 0.500000 - 0.866025I$		
$u = 1.41878 - 0.21917I$		
$a = -0.858089 - 0.538616I$	$5.87256 - 6.43072I$	$12.8115 + 8.6504I$
$b = 0.500000 - 0.866025I$		
$u = 1.41878 - 0.21917I$		
$a = -0.604500 + 0.392206I$	$5.87256 - 2.37095I$	$8.34383 - 3.96169I$
$b = 0.500000 + 0.866025I$		

### III. u-Polynomials

Crossings	u-Polynomials at each crossing
$c_1$	$((u^2 - u + 1)^5)(u^{65} + 36u^{64} + \dots - 153u - 1)$
$c_2$	$((u^2 + u + 1)^5)(u^{65} + 6u^{64} + \dots - 5u - 1)$
$c_3$	$((u^2 - u + 1)^5)(u^{65} - 6u^{64} + \dots - 3141u - 1282)$
$c_4, c_7$	$u^{10}(u^{65} + 5u^{64} + \dots - 13312u^2 - 1024)$
$c_5$	$((u^2 - u + 1)^5)(u^{65} + 6u^{64} + \dots - 5u - 1)$
$c_6$	$((u^5 - u^4 - 2u^3 + u^2 + u + 1)^2)(u^{65} - 3u^{64} + \dots + u^2 - 1)$
$c_8$	$((u^5 - u^4 - 2u^3 + u^2 + u + 1)^2)(u^{65} + 3u^{64} + \dots + 969u - 578)$
$c_9$	$((u^5 + u^4 + 2u^3 + u^2 + u + 1)^2)(u^{65} - 3u^{64} + \dots + 8u - 1)$
$c_{10}$	$((u^5 + u^4 - 2u^3 - u^2 + u - 1)^2)(u^{65} - 3u^{64} + \dots + u^2 - 1)$
$c_{11}$	$((u^5 + 3u^4 + 4u^3 + u^2 - u - 1)^2)(u^{65} - 29u^{64} + \dots + 2u + 1)$
$c_{12}$	$((u^5 - u^4 + 2u^3 - u^2 + u - 1)^2)(u^{65} - 3u^{64} + \dots + 8u - 1)$



#### IV. Riley Polynomials

Crossings	Riley Polynomials at each crossing
$c_1$	$((y^2 + y + 1)^5)(y^{65} - 8y^{64} + \dots + 10327y - 1)$
$c_2, c_5$	$((y^2 + y + 1)^5)(y^{65} + 36y^{64} + \dots - 153y - 1)$
$c_3$	$((y^2 + y + 1)^5)(y^{65} - 52y^{64} + \dots - 2.41955 \times 10^8 y - 1643524)$
$c_4, c_7$	$y^{10}(y^{65} + 55y^{64} + \dots - 2.72630 \times 10^7 y - 1048576)$
$c_6, c_{10}$	$((y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1)^2)(y^{65} - 15y^{64} + \dots + 2y - 1)$
$c_8$	$(y^5 - 5y^4 + 8y^3 - 3y^2 - y - 1)^2$ $\cdot (y^{65} + 5y^{64} + \dots - 4574003y - 334084)$
$c_9, c_{12}$	$((y^5 + 3y^4 + 4y^3 + y^2 - y - 1)^2)(y^{65} + 29y^{64} + \dots + 2y - 1)$
$c_{11}$	$((y^5 - y^4 + 8y^3 - 3y^2 + 3y - 1)^2)(y^{65} + 17y^{64} + \dots - 142y - 1)$