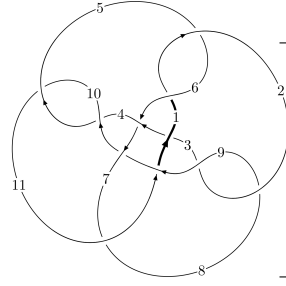
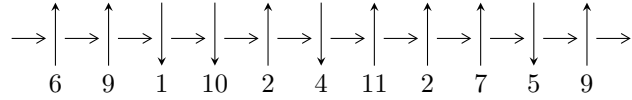


11n₁₇₂ (K11n₁₇₂)



A knot diagram¹

Linearized knot diagram



Solving Sequence

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

Ideals for irreducible components² of X_{par}

$$I_1^u = \langle 2.80403 \times 10^{129} u^{39} + 1.00269 \times 10^{129} u^{38} + \dots + 1.55952 \times 10^{133} b - 4.83307 \times 10^{132}, \\ 3.18557 \times 10^{131} u^{39} - 1.42090 \times 10^{132} u^{38} + \dots + 6.95548 \times 10^{135} a + 3.12217 \times 10^{135}, \\ u^{40} - u^{39} + \dots + 492u - 892 \rangle$$

$$I_2^u = \langle -3007418546u^{15} + 933342897u^{14} + \dots + 9161883482b + 4813387670, \\ -1873381418u^{15} - 2988794220u^{14} + \dots + 9161883482a - 21851752726, \\ u^{16} + 5u^{14} - 5u^{13} - u^{11} - 24u^{10} + 16u^9 + 4u^8 - 16u^7 + 20u^6 - 4u^5 - 17u^4 + 4u^3 + 10u^2 - 4 \rangle$$

* 2 irreducible components of $\dim_{\mathbb{C}} = 0$, with total 56 representations.

¹The 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>).

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

$$\mathbf{I. } I_1^u = \langle 2.80 \times 10^{129} u^{39} + 1.00 \times 10^{129} u^{38} + \dots + 1.56 \times 10^{133} b - 4.83 \times 10^{132}, 3.19 \times 10^{131} u^{39} - 1.42 \times 10^{132} u^{38} + \dots + 6.96 \times 10^{135} a + 3.12 \times 10^{135}, u^{40} - u^{39} + \dots + 492u - 892 \rangle$$

(i) Arc colorings

$$\begin{aligned} a_2 &= \begin{pmatrix} 1 \\ 0 \end{pmatrix} \\ a_9 &= \begin{pmatrix} 0 \\ u \end{pmatrix} \\ a_3 &= \begin{pmatrix} 1 \\ -u^2 \end{pmatrix} \\ a_6 &= \begin{pmatrix} -0.0000457994u^{39} + 0.000204285u^{38} + \dots + 0.0708298u - 0.448879 \\ -0.000179801u^{39} - 0.0000642943u^{38} + \dots + 1.95559u + 0.309907 \end{pmatrix} \\ a_1 &= \begin{pmatrix} 0.0000420568u^{39} - 0.000112360u^{38} + \dots - 2.24245u + 0.0906996 \\ -0.000731650u^{39} + 0.000562011u^{38} + \dots + 0.278566u - 0.727739 \end{pmatrix} \\ a_4 &= \begin{pmatrix} -0.000151445u^{39} - 0.0000710102u^{38} + \dots + 2.55187u + 2.12193 \\ 0.000373065u^{39} - 0.000239614u^{38} + \dots - 0.711429u + 0.439973 \end{pmatrix} \\ a_5 &= \begin{pmatrix} 0.000134001u^{39} + 0.000268580u^{38} + \dots - 1.88476u - 0.758785 \\ -0.000179801u^{39} - 0.0000642943u^{38} + \dots + 1.95559u + 0.309907 \end{pmatrix} \\ a_8 &= \begin{pmatrix} -u \\ u \end{pmatrix} \\ a_{11} &= \begin{pmatrix} 0.0000420568u^{39} - 0.000112360u^{38} + \dots - 2.24245u + 0.0906996 \\ -0.000736091u^{39} + 0.000525007u^{38} + \dots + 0.350670u - 0.790450 \end{pmatrix} \\ a_7 &= \begin{pmatrix} 0.000166450u^{39} - 0.000130525u^{38} + \dots - 1.45638u + 1.06015 \\ 0.000220629u^{39} - 0.0000136383u^{38} + \dots - 0.303665u - 0.108440 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} -0.000515912u^{39} + 0.000203912u^{38} + \dots - 0.148443u - 0.735075 \\ -0.000308939u^{39} + 0.000237175u^{38} + \dots - 0.241184u - 0.390016 \end{pmatrix} \\ a_{10} &= \begin{pmatrix} -0.000515912u^{39} + 0.000203912u^{38} + \dots - 0.148443u - 0.735075 \\ -0.000308939u^{39} + 0.000237175u^{38} + \dots - 0.241184u - 0.390016 \end{pmatrix} \end{aligned}$$

(ii) Obstruction class = -1

$$\mathbf{(iii) Cusp Shapes} = -0.000707464u^{39} - 0.00139771u^{38} + \dots - 3.97400u - 0.836131$$

(iv) u-Polynomials at the component

| Crossings | u-Polynomials at each crossing |
|---------------|--|
| c_1, c_5 | $u^{40} - 2u^{39} + \dots + 14u - 1$ |
| c_2, c_8 | $u^{40} - u^{39} + \dots + 492u - 892$ |
| c_3 | $u^{40} - 5u^{39} + \dots - 248u + 88$ |
| c_4, c_{10} | $u^{40} - u^{39} + \dots - 12u + 4$ |
| c_6 | $u^{40} - 5u^{39} + \dots + 457u + 29$ |
| c_7 | $u^{40} - 3u^{39} + \dots - 26575u + 7349$ |
| c_9 | $u^{40} + 5u^{39} + \dots + 96u + 11$ |
| c_{11} | $u^{40} + u^{39} + \dots - 1168u - 424$ |

(v) Riley Polynomials at the component

| Crossings | Riley Polynomials at each crossing |
|---------------|---|
| c_1, c_5 | $y^{40} + 38y^{39} + \dots - 78y + 1$ |
| c_2, c_8 | $y^{40} + 63y^{39} + \dots + 6026912y + 795664$ |
| c_3 | $y^{40} - 59y^{39} + \dots - 199840y + 7744$ |
| c_4, c_{10} | $y^{40} - 35y^{39} + \dots + 1888y + 16$ |
| c_6 | $y^{40} - 15y^{39} + \dots - 262383y + 841$ |
| c_7 | $y^{40} + 47y^{39} + \dots + 923130863y + 54007801$ |
| c_9 | $y^{40} + 7y^{39} + \dots - 218y + 121$ |
| c_{11} | $y^{40} + 57y^{39} + \dots + 1150944y + 179776$ |

(vi) Complex Volumes and Cusp Shapes

| Solutions to I_1^u | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---------------------------------------|-----------------------|
| $u = -0.972209 + 0.363644I$ $a = -0.691473 - 0.726212I$ $b = 0.246524 - 1.044100I$ | $-1.63884 - 2.52981I$ | $-3.46896 + 4.78238I$ |
| $u = -0.972209 - 0.363644I$ $a = -0.691473 + 0.726212I$ $b = 0.246524 + 1.044100I$ | $-1.63884 + 2.52981I$ | $-3.46896 - 4.78238I$ |
| $u = -0.777438 + 0.253101I$ $a = -0.28608 - 2.07418I$ $b = 0.0965200 - 0.0759702I$ | $-0.55843 - 5.04023I$ | $8.92316 + 6.11668I$ |
| $u = -0.777438 - 0.253101I$ $a = -0.28608 + 2.07418I$ $b = 0.0965200 + 0.0759702I$ | $-0.55843 + 5.04023I$ | $8.92316 - 6.11668I$ |
| $u = -1.028590 + 0.641044I$ $a = 0.812402 + 0.180660I$ $b = -0.05196 + 1.65626I$ | $-6.89381 + 4.31374I$ | $-3.00921 - 2.52408I$ |
| $u = -1.028590 - 0.641044I$ $a = 0.812402 - 0.180660I$ $b = -0.05196 - 1.65626I$ | $-6.89381 - 4.31374I$ | $-3.00921 + 2.52408I$ |
| $u = 1.28769$ $a = -1.23762$ $b = 1.21545$ | 2.31916 | 3.45590 |
| $u = -0.004586 + 0.662077I$ $a = -0.110517 - 1.374950I$ $b = -0.440412 - 1.198770I$ | $-6.21063 + 2.44288I$ | $-1.57019 - 3.53786I$ |
| $u = -0.004586 - 0.662077I$ $a = -0.110517 + 1.374950I$ $b = -0.440412 + 1.198770I$ | $-6.21063 - 2.44288I$ | $-1.57019 + 3.53786I$ |
| $u = 0.606580 + 0.241726I$ $a = -0.989022 - 0.886345I$ $b = 0.197863 + 0.060558I$ | $1.31470 + 0.60771I$ | $8.49421 - 3.04989I$ |

| Solutions to I_1^u | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---------------------------------------|------------------------|
| $u = 0.606580 - 0.241726I$ $a = -0.989022 + 0.886345I$ $b = 0.197863 - 0.060558I$ | $1.31470 - 0.60771I$ | $8.49421 + 3.04989I$ |
| $u = 0.584454 + 0.231728I$ $a = -0.083035 + 1.313620I$ $b = -0.458127 + 1.196180I$ | $-5.71740 - 6.20191I$ | $-6.05433 + 5.08780I$ |
| $u = 0.584454 - 0.231728I$ $a = -0.083035 - 1.313620I$ $b = -0.458127 - 1.196180I$ | $-5.71740 + 6.20191I$ | $-6.05433 - 5.08780I$ |
| $u = -0.607336$ $a = 2.89129$ $b = -1.09842$ | 3.09539 | -9.16160 |
| $u = 0.13576 + 1.42105I$ $a = -0.158909 - 0.108207I$ $b = -0.742397 - 0.144685I$ | $-4.59373 + 2.98825I$ | $4.81250 - 3.01552I$ |
| $u = 0.13576 - 1.42105I$ $a = -0.158909 + 0.108207I$ $b = -0.742397 + 0.144685I$ | $-4.59373 - 2.98825I$ | $4.81250 + 3.01552I$ |
| $u = -0.292078 + 0.391717I$ $a = -0.559269 + 0.026373I$ $b = -0.768195 + 0.090718I$ | $-2.47058 + 1.70720I$ | $0.230221 - 0.591796I$ |
| $u = -0.292078 - 0.391717I$ $a = -0.559269 - 0.026373I$ $b = -0.768195 - 0.090718I$ | $-2.47058 - 1.70720I$ | $0.230221 + 0.591796I$ |
| $u = 0.011693 + 0.471366I$ $a = -0.639263 - 0.198812I$ $b = 0.381500 + 0.672173I$ | $0.03644 + 1.50292I$ | $1.25089 - 6.14683I$ |
| $u = 0.011693 - 0.471366I$ $a = -0.639263 + 0.198812I$ $b = 0.381500 - 0.672173I$ | $0.03644 - 1.50292I$ | $1.25089 + 6.14683I$ |

| Solutions to I_1^u | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|--|---------------------------------------|-----------------------|
| $u = 0.281701 + 0.359944I$ $a = -2.19829 - 0.09585I$ $b = 0.325667 + 1.141170I$ | $-1.21242 + 1.07873I$ | $-3.63948 + 1.17826I$ |
| $u = 0.281701 - 0.359944I$ $a = -2.19829 + 0.09585I$ $b = 0.325667 - 1.141170I$ | $-1.21242 - 1.07873I$ | $-3.63948 - 1.17826I$ |
| $u = -0.11719 + 1.62482I$ $a = 0.403686 - 0.292336I$ $b = -0.345255 - 0.125454I$ | $-8.09181 - 0.67197I$ | 0 |
| $u = -0.11719 - 1.62482I$ $a = 0.403686 + 0.292336I$ $b = -0.345255 + 0.125454I$ | $-8.09181 + 0.67197I$ | 0 |
| $u = 1.60181 + 1.05960I$ $a = 0.323648 - 0.513185I$ $b = 0.10749 - 1.61398I$ | $-6.22320 + 3.43752I$ | 0 |
| $u = 1.60181 - 1.05960I$ $a = 0.323648 + 0.513185I$ $b = 0.10749 + 1.61398I$ | $-6.22320 - 3.43752I$ | 0 |
| $u = -0.48768 + 1.87046I$ $a = 0.445879 + 1.224510I$ $b = -0.14644 + 1.58425I$ | $-14.3940 - 1.3454I$ | 0 |
| $u = -0.48768 - 1.87046I$ $a = 0.445879 - 1.224510I$ $b = -0.14644 - 1.58425I$ | $-14.3940 + 1.3454I$ | 0 |
| $u = -0.11349 + 1.97784I$ $a = 0.128360 + 1.333720I$ $b = -0.27705 + 1.55024I$ | $-10.55230 - 6.76566I$ | 0 |
| $u = -0.11349 - 1.97784I$ $a = 0.128360 - 1.333720I$ $b = -0.27705 - 1.55024I$ | $-10.55230 + 6.76566I$ | 0 |

| Solutions to I_1^u | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---------------------------------------|------------|
| $u = -0.00542 + 2.12395I$ $a = 0.124816 - 1.215410I$ $b = -0.28024 - 1.51688I$ | $-9.55118 + 0.96633I$ | 0 |
| $u = -0.00542 - 2.12395I$ $a = 0.124816 + 1.215410I$ $b = -0.28024 + 1.51688I$ | $-9.55118 - 0.96633I$ | 0 |
| $u = 0.21330 + 2.22331I$ $a = -0.0303329 + 0.0193746I$ $b = 1.75447 - 0.27463I$ | $-10.09040 - 5.18311I$ | 0 |
| $u = 0.21330 - 2.22331I$ $a = -0.0303329 - 0.0193746I$ $b = 1.75447 + 0.27463I$ | $-10.09040 + 5.18311I$ | 0 |
| $u = -0.79762 + 2.19173I$ $a = -0.440868 - 0.873034I$ $b = 0.84317 - 1.82666I$ | $-14.8294 - 4.4956I$ | 0 |
| $u = -0.79762 - 2.19173I$ $a = -0.440868 + 0.873034I$ $b = 0.84317 + 1.82666I$ | $-14.8294 + 4.4956I$ | 0 |
| $u = 0.56414 + 2.26378I$ $a = -0.363789 + 1.003570I$ $b = 0.63008 + 1.69717I$ | $-16.3560 + 13.3915I$ | 0 |
| $u = 0.56414 - 2.26378I$ $a = -0.363789 - 1.003570I$ $b = 0.63008 - 1.69717I$ | $-16.3560 - 13.3915I$ | 0 |
| $u = 0.75669 + 2.48566I$ $a = 0.256526 - 1.062360I$ $b = -0.13173 - 1.46303I$ | $-12.97920 + 2.42998I$ | 0 |
| $u = 0.75669 - 2.48566I$ $a = 0.256526 + 1.062360I$ $b = -0.13173 + 1.46303I$ | $-12.97920 - 2.42998I$ | 0 |

II.

$$I_2^u = \langle -3.01 \times 10^9 u^{15} + 9.33 \times 10^8 u^{14} + \dots + 9.16 \times 10^9 b + 4.81 \times 10^9, -1.87 \times 10^9 u^{15} - 2.99 \times 10^9 u^{14} + \dots + 9.16 \times 10^9 a - 2.19 \times 10^{10}, u^{16} + 5u^{14} + \dots + 10u^2 - 4 \rangle$$

(i) Arc colorings

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

$$a_9 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_6 = \begin{pmatrix} 0.204476u^{15} + 0.326221u^{14} + \dots - 0.0881222u + 2.38507 \\ 0.328253u^{15} - 0.101872u^{14} + \dots + 1.42300u - 0.525371 \end{pmatrix}$$

$$a_1 = \begin{pmatrix} 0.197482u^{15} - 0.179148u^{14} + \dots + 1.09215u - 1.18979 \\ -0.196147u^{15} + 0.172594u^{14} + \dots - 1.16409u + 0.366552 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.0632878u^{15} - 0.0676739u^{14} + \dots - 0.398063u + 1.03749 \\ -0.00954759u^{15} + 0.0961985u^{14} + \dots - 0.151211u + 0.663053 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -0.123778u^{15} + 0.428093u^{14} + \dots - 1.51112u + 2.91044 \\ 0.328253u^{15} - 0.101872u^{14} + \dots + 1.42300u - 0.525371 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.197482u^{15} - 0.179148u^{14} + \dots + 1.09215u - 1.18979 \\ -0.0923248u^{15} + 0.0842185u^{14} + \dots - 0.374160u - 0.350040 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -0.0660443u^{15} + 0.133020u^{14} + \dots - 2.18472u + 1.03736 \\ 0.0529067u^{15} + 0.140450u^{14} + \dots + 0.570148u + 0.302746 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0419856u^{15} - 0.418545u^{14} + \dots + 1.04104u - 2.75923 \\ -0.120621u^{15} - 0.0702787u^{14} + \dots - 0.632997u - 0.128181 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.0419856u^{15} - 0.418545u^{14} + \dots + 1.04104u - 2.75923 \\ -0.120621u^{15} - 0.0702787u^{14} + \dots - 0.632997u - 0.128181 \end{pmatrix}$$

(ii) Obstruction class = 1

(iii) Cusp Shapes = $-\frac{7739992772}{4580941741}u^{15} + \frac{9173770896}{4580941741}u^{14} + \dots - \frac{57525934822}{4580941741}u + \frac{47024714230}{4580941741}$

(iv) u-Polynomials at the component

| Crossings | u-Polynomials at each crossing |
|-----------|--|
| c_1 | $u^{16} - u^{15} + \dots - 2u - 1$ |
| c_2 | $u^{16} + 5u^{14} + \dots + 10u^2 - 4$ |
| c_3 | $u^{16} + 8u^{15} + \dots + 12u + 8$ |
| c_4 | $u^{16} - 6u^{14} + \dots - 14u^2 + 4$ |
| c_5 | $u^{16} + u^{15} + \dots + 2u - 1$ |
| c_6 | $u^{16} + 2u^{15} + \dots + 11u + 1$ |
| c_7 | $u^{16} - 2u^{15} + \dots + 13u + 1$ |
| c_8 | $u^{16} + 5u^{14} + \dots + 10u^2 - 4$ |
| c_9 | $u^{16} - 6u^{15} + \dots - 2u + 1$ |
| c_{10} | $u^{16} - 6u^{14} + \dots - 14u^2 + 4$ |
| c_{11} | $u^{16} + 4u^{14} + \dots + 4u^2 - 1$ |

(v) Riley Polynomials at the component

| Crossings | Riley Polynomials at each crossing |
|---------------|--|
| c_1, c_5 | $y^{16} + 9y^{15} + \dots + 10y + 1$ |
| c_2, c_8 | $y^{16} + 10y^{15} + \dots - 80y + 16$ |
| c_3 | $y^{16} - 20y^{15} + \dots - 1168y + 64$ |
| c_4, c_{10} | $y^{16} - 12y^{15} + \dots - 112y + 16$ |
| c_6 | $y^{16} + 4y^{14} + \dots - 91y + 1$ |
| c_7 | $y^{16} + 10y^{15} + \dots - 69y + 1$ |
| c_9 | $y^{16} - 2y^{15} + \dots - 2y + 1$ |
| c_{11} | $y^{16} + 8y^{15} + \dots - 8y + 1$ |

(vi) Complex Volumes and Cusp Shapes

| Solutions to I_2^u | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|--|---------------------------------------|------------------------|
| $u = -1.044910 + 0.084383I$ $a = 0.057226 + 0.245893I$ $b = 0.361947 + 1.340670I$ | $-4.61886 + 6.15067I$ | $1.67402 - 4.95826I$ |
| $u = -1.044910 - 0.084383I$ $a = 0.057226 - 0.245893I$ $b = 0.361947 - 1.340670I$ | $-4.61886 - 6.15067I$ | $1.67402 + 4.95826I$ |
| $u = 0.203156 + 1.098810I$ $a = -0.741658 - 0.024758I$ $b = -0.379929 - 0.431781I$ | $-5.56667 + 2.95635I$ | $-4.74772 - 2.75237I$ |
| $u = 0.203156 - 1.098810I$ $a = -0.741658 + 0.024758I$ $b = -0.379929 + 0.431781I$ | $-5.56667 - 2.95635I$ | $-4.74772 + 2.75237I$ |
| $u = 0.701325 + 0.516464I$ $a = 1.021890 - 0.280960I$ $b = -0.299377 - 1.065240I$ | $-0.62726 + 1.86405I$ | $2.38240 - 3.76150I$ |
| $u = 0.701325 - 0.516464I$ $a = 1.021890 + 0.280960I$ $b = -0.299377 + 1.065240I$ | $-0.62726 - 1.86405I$ | $2.38240 + 3.76150I$ |
| $u = -0.813758$ $a = 2.21481$ $b = -1.08888$ | 3.38602 | 19.6050 |
| $u = 0.752983 + 0.179131I$ $a = 0.79516 - 2.54506I$ $b = -0.050757 - 0.668728I$ | $-1.13425 + 5.09162I$ | $-5.21325 - 6.81011I$ |
| $u = 0.752983 - 0.179131I$ $a = 0.79516 + 2.54506I$ $b = -0.050757 + 0.668728I$ | $-1.13425 - 5.09162I$ | $-5.21325 + 6.81011I$ |
| $u = -0.474047 + 0.462486I$ $a = 1.29761 - 1.51241I$ $b = -0.190166 - 0.829536I$ | $0.363930 + 0.209601I$ | $0.372974 + 0.607008I$ |

| Solutions to I_2^u | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|--|---------------------------------------|-------------------------|
| $u = -0.474047 - 0.462486I$ $a = 1.29761 + 1.51241I$ $b = -0.190166 + 0.829536I$ | $0.363930 - 0.209601I$ | $0.372974 - 0.607008I$ |
| $u = 1.43010$ $a = -1.12981$ $b = 1.62094$ | 1.43155 | -5.25650 |
| $u = 0.13607 + 1.51148I$ $a = -0.173098 - 0.201972I$ $b = 0.597072 - 0.748618I$ | $-8.25349 - 1.91163I$ | $-5.00806 + 3.84199I$ |
| $u = 0.13607 - 1.51148I$ $a = -0.173098 + 0.201972I$ $b = 0.597072 + 0.748618I$ | $-8.25349 + 1.91163I$ | $-5.00806 - 3.84199I$ |
| $u = -0.58274 + 2.26201I$ $a = -0.299629 - 1.085740I$ $b = 0.19518 - 1.54614I$ | $-12.18100 - 1.94801I$ | $-0.634861 - 0.077298I$ |
| $u = -0.58274 - 2.26201I$ $a = -0.299629 + 1.085740I$ $b = 0.19518 + 1.54614I$ | $-12.18100 + 1.94801I$ | $-0.634861 + 0.077298I$ |

III. u-Polynomials

| Crossings | u-Polynomials at each crossing |
|-----------|--|
| c_1 | $(u^{16} - u^{15} + \dots - 2u - 1)(u^{40} - 2u^{39} + \dots + 14u - 1)$ |
| c_2 | $(u^{16} + 5u^{14} + \dots + 10u^2 - 4)(u^{40} - u^{39} + \dots + 492u - 892)$ |
| c_3 | $(u^{16} + 8u^{15} + \dots + 12u + 8)(u^{40} - 5u^{39} + \dots - 248u + 88)$ |
| c_4 | $(u^{16} - 6u^{14} + \dots - 14u^2 + 4)(u^{40} - u^{39} + \dots - 12u + 4)$ |
| c_5 | $(u^{16} + u^{15} + \dots + 2u - 1)(u^{40} - 2u^{39} + \dots + 14u - 1)$ |
| c_6 | $(u^{16} + 2u^{15} + \dots + 11u + 1)(u^{40} - 5u^{39} + \dots + 457u + 29)$ |
| c_7 | $(u^{16} - 2u^{15} + \dots + 13u + 1)(u^{40} - 3u^{39} + \dots - 26575u + 7349)$ |
| c_8 | $(u^{16} + 5u^{14} + \dots + 10u^2 - 4)(u^{40} - u^{39} + \dots + 492u - 892)$ |
| c_9 | $(u^{16} - 6u^{15} + \dots - 2u + 1)(u^{40} + 5u^{39} + \dots + 96u + 11)$ |
| c_{10} | $(u^{16} - 6u^{14} + \dots - 14u^2 + 4)(u^{40} - u^{39} + \dots - 12u + 4)$ |
| c_{11} | $(u^{16} + 4u^{14} + \dots + 4u^2 - 1)(u^{40} + u^{39} + \dots - 1168u - 424)$ |

IV. Riley Polynomials

| Crossings | Riley Polynomials at each crossing |
|---------------|--|
| c_1, c_5 | $(y^{16} + 9y^{15} + \dots + 10y + 1)(y^{40} + 38y^{39} + \dots - 78y + 1)$ |
| c_2, c_8 | $(y^{16} + 10y^{15} + \dots - 80y + 16)$ $\cdot (y^{40} + 63y^{39} + \dots + 6026912y + 795664)$ |
| c_3 | $(y^{16} - 20y^{15} + \dots - 1168y + 64)$ $\cdot (y^{40} - 59y^{39} + \dots - 199840y + 7744)$ |
| c_4, c_{10} | $(y^{16} - 12y^{15} + \dots - 112y + 16)(y^{40} - 35y^{39} + \dots + 1888y + 16)$ |
| c_6 | $(y^{16} + 4y^{14} + \dots - 91y + 1)(y^{40} - 15y^{39} + \dots - 262383y + 841)$ |
| c_7 | $(y^{16} + 10y^{15} + \dots - 69y + 1)$ $\cdot (y^{40} + 47y^{39} + \dots + 923130863y + 54007801)$ |
| c_9 | $(y^{16} - 2y^{15} + \dots - 2y + 1)(y^{40} + 7y^{39} + \dots - 218y + 121)$ |
| c_{11} | $(y^{16} + 8y^{15} + \dots - 8y + 1)(y^{40} + 57y^{39} + \dots + 1150944y + 179776)$ |