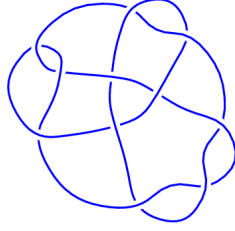
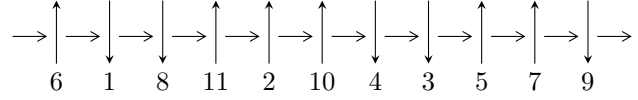


11a₁₃₇ (K11a₁₃₇)

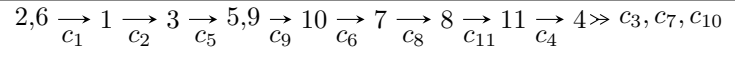


1

Arc Sequences



Solving Sequence



Representation Ideals

$$I = \bigcap_{i=1}^2 I_i^u$$

$$\begin{aligned} I_1^u = & \langle u^{12} - u^{11} + 3u^{10} - 2u^9 + 6u^8 - 4u^7 + 7u^6 - 3u^5 + 6u^4 - 2u^3 + 3u^2 - u + 1, \\ & u^{10} + 2u^8 + u^7 + 4u^6 + u^5 + 4u^4 + 2u^3 + 4u^2 + b + u + 2, \\ & -u^{11} - 3u^9 - 6u^7 - u^6 - 6u^5 - 2u^4 - 5u^3 - 4u^2 + a - 2u - 1 \rangle \end{aligned}$$

$$\begin{aligned} I_2^u = & \langle u^{67} + 12u^{65} + \dots + 23u - 1, \\ & -2.15438 \times 10^{61}u^{66} + 3.30317 \times 10^{61}u^{65} + \dots + 2.86477 \times 10^{61}a + 8.50144 \times 10^{62}, \\ & 3.38344 \times 10^{61}u^{66} - 2.37858 \times 10^{61}u^{65} + \dots + 2.86477 \times 10^{61}b - 4.12279 \times 10^{61} \rangle \end{aligned}$$

There are 2 irreducible components with 79 representations.

¹The knot diagram image is adapter from “C. Livingston and A. H. Moore, KnotInfo: Table of Knot Invariants, <http://www.indiana.edu/~knotinfo>”

$$I_1^u = \langle u^{12} - u^{11} + \dots - u + 1, u^{10} + 2u^8 + \dots + b + 2, -u^{11} - 3u^9 + \dots + a - 1 \rangle$$

I.

(i) Arc colorings

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

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

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

$$a_3 = \begin{pmatrix} u^2 + 1 \\ u^4 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} u^{11} + 3u^9 + 6u^7 + u^6 + 6u^5 + 2u^4 + 5u^3 + 4u^2 + 2u + 1 \\ -u^{10} - 2u^8 - u^7 - 4u^6 - u^5 - 4u^4 - 2u^3 - 4u^2 - u - 2 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} u^{11} + 2u^9 + u^8 + 4u^7 + 2u^6 + 3u^5 + 4u^4 + 3u^3 + 4u^2 + u + 1 \\ -u^{10} + u^9 - 3u^8 + u^7 - 5u^6 + 2u^5 - 6u^4 - 4u^2 - 2 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} -u^{10} - 2u^8 - u^7 - 4u^6 - 2u^5 - 3u^4 - 4u^3 - 3u^2 - 3u - 1 \\ -u^{11} + u^{10} - 2u^9 + 2u^8 - 4u^7 + 5u^6 - 3u^5 + 4u^4 - 2u^3 + 4u^2 + u + 2 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} u^6 + 2u^4 + 3u^2 + 1 \\ -u^{10} + u^9 - 2u^8 + u^7 - 4u^6 + 2u^5 - 4u^4 - 4u^2 - 2 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^{11} - u^{10} + 2u^9 - 2u^8 + 4u^7 - 5u^6 + 3u^5 - 5u^4 + 3u^3 - 5u^2 - 3 \\ -2u^{11} + u^{10} - 4u^9 + u^8 - 8u^7 + 3u^6 - 6u^5 + u^4 - 6u^3 + 2u^2 - u + 2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -2u^{11} + 2u^{10} + \dots - 2u + 3 \\ 2u^{11} - u^{10} + 5u^9 - 2u^8 + 10u^7 - 4u^6 + 9u^5 - 3u^4 + 8u^3 - u^2 + 3u - 2 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -2u^{11} + 2u^{10} + \dots - 2u + 3 \\ 2u^{11} - u^{10} + 5u^9 - 2u^8 + 10u^7 - 4u^6 + 9u^5 - 3u^4 + 8u^3 - u^2 + 3u - 2 \end{pmatrix}$$

(ii) Obstruction class = 1

(iii) Cusp Shapes = unknown

(iv) Complex Volumes and Cusp Shapes

| Solution to I_1^u | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---------------------------------------|-----------------------|
| $u = -0.652038 - 1.006002I$ $a = -0.444125 - 0.790699I$ $b = 1.42695 + 0.55816I$ | $2.33148 + 3.99686I$ | $1.50375 - 2.05925I$ |
| $u = -0.652038 + 1.006002I$ $a = -0.444125 + 0.790699I$ $b = 1.42695 - 0.55816I$ | $2.33148 - 3.99686I$ | $1.50375 + 2.05925I$ |
| $u = -0.585728 - 0.681872I$ $a = 0.23681 + 1.86834I$ $b = -0.829790 - 0.463181I$ | $3.42377 + 0.95171I$ | $2.37059 - 4.65710I$ |
| $u = -0.585728 + 0.681872I$ $a = 0.23681 - 1.86834I$ $b = -0.829790 + 0.463181I$ | $3.42377 - 0.95171I$ | $2.37059 + 4.65710I$ |
| $u = -0.132531 - 0.859925I$ $a = -0.729553 + 0.568826I$ $b = -0.584537 - 0.746714I$ | $-1.65743 + 0.58036I$ | $-2.32258 + 0.32607I$ |
| $u = -0.132531 + 0.859925I$ $a = -0.729553 - 0.568826I$ $b = -0.584537 + 0.746714I$ | $-1.65743 - 0.58036I$ | $-2.32258 - 0.32607I$ |
| $u = 0.438411 - 0.562405I$ $a = -0.33642 - 2.56289I$ $b = -0.82610 + 1.89791I$ | $8.75961 + 1.92614I$ | $9.97632 + 1.04911I$ |
| $u = 0.438411 + 0.562405I$ $a = -0.33642 + 2.56289I$ $b = -0.82610 - 1.89791I$ | $8.75961 - 1.92614I$ | $9.97632 - 1.04911I$ |
| $u = 0.620586 - 1.173980I$ $a = -0.971360 + 0.451112I$ $b = 1.309494 - 0.021121I$ | $6.48178 - 6.40598I$ | $7.80646 + 6.33972I$ |
| $u = 0.620586 + 1.173980I$ $a = -0.971360 - 0.451112I$ $b = 1.309494 + 0.021121I$ | $6.48178 + 6.40598I$ | $7.80646 - 6.33972I$ |

| Solution to I_1^u | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---------------------------------------|----------------------|
| $u = 0.811300 - 0.781246I$ $a = -0.255348 - 0.442864I$ $b = 0.503987 - 0.177414I$ | $10.26960 - 3.07498I$ | $8.16546 + 2.75495I$ |
| $u = 0.811300 + 0.781246I$ $a = -0.255348 + 0.442864I$ $b = 0.503987 + 0.177414I$ | $10.26960 + 3.07498I$ | $8.16546 - 2.75495I$ |

$$\text{II. } I_2^u = \langle u^{67} + 12u^{65} + \dots + 23u - 1, -2.15 \times 10^{61} u^{66} + 3.30 \times 10^{61} u^{65} + \dots + 2.86 \times 10^{61} a + 8.50 \times 10^{62}, 3.38 \times 10^{61} u^{66} - 2.38 \times 10^{61} u^{65} + \dots + 2.86 \times 10^{61} b - 4.12 \times 10^{61} \rangle$$

(i) Arc colorings

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

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

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

$$a_3 = \begin{pmatrix} u^2 + 1 \\ u^4 \end{pmatrix}$$

$$a_5 = \begin{pmatrix} -u \\ u \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.752025u^{66} - 1.15303u^{65} + \dots - 80.4197u - 29.6758 \\ -1.18105u^{66} + 0.830285u^{65} + \dots - 18.4696u + 1.43913 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} -0.000221887u^{66} - 0.337439u^{65} + \dots - 73.4256u - 29.9985 \\ -0.428805u^{66} + 0.0146926u^{65} + \dots - 25.4637u + 1.76188 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 3.54834u^{66} - 0.470106u^{65} + \dots + 124.097u + 36.9544 \\ -1.90593u^{66} - 0.382414u^{65} + \dots - 51.1355u + 1.60069 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.228617u^{66} - 0.901105u^{65} + \dots - 92.5574u - 28.5621 \\ -1.06292u^{66} + 0.581784u^{65} + \dots - 19.8213u + 1.49279 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -0.962281u^{66} + 0.583106u^{65} + \dots + 95.4013u + 17.4787 \\ 2.18480u^{66} + 0.0194579u^{65} + \dots + 7.67228u - 0.857184 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -1.43888u^{66} + 0.0173359u^{65} + \dots - 86.7342u - 13.7223 \\ -0.910158u^{66} + 0.317802u^{65} + \dots + 29.5491u - 0.851191 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -1.43888u^{66} + 0.0173359u^{65} + \dots - 86.7342u - 13.7223 \\ -0.910158u^{66} + 0.317802u^{65} + \dots + 29.5491u - 0.851191 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = unknown

(iv) Complex Volumes and Cusp Shapes

| Solution to I_2^u | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---------------------------------------|-----------------------|
| $u = -0.980839 - 0.621887I$ $a = -0.944419 - 0.965698I$ $b = 1.49331 - 0.27065I$ | $13.5295 - 9.1720I$ | $8.32297 + 3.94208I$ |
| $u = -0.980839 + 0.621887I$ $a = -0.944419 + 0.965698I$ $b = 1.49331 + 0.27065I$ | $13.5295 + 9.1720I$ | $8.32297 - 3.94208I$ |
| $u = -0.933790 - 0.466037I$ $a = -0.146083 + 0.791241I$ $b = -0.540552 - 0.274282I$ | $4.82838 + 1.51282I$ | $12.79219 - 4.78584I$ |
| $u = -0.933790 + 0.466037I$ $a = -0.146083 - 0.791241I$ $b = -0.540552 + 0.274282I$ | $4.82838 - 1.51282I$ | $12.79219 + 4.78584I$ |
| $u = -0.768711 - 0.568168I$ $a = 1.22102 + 1.27876I$ $b = -1.51806 - 0.40150I$ | $7.58682 - 3.59183I$ | $7.04387 + 3.71693I$ |
| $u = -0.768711 + 0.568168I$ $a = 1.22102 - 1.27876I$ $b = -1.51806 + 0.40150I$ | $7.58682 + 3.59183I$ | $7.04387 - 3.71693I$ |
| $u = -0.758307 - 1.104120I$ $a = 0.74080 + 1.57518I$ $b = -1.97912 - 1.22742I$ | $12.0155 + 15.5095I$ | $6.35642 - 7.98500I$ |
| $u = -0.758307 + 1.104120I$ $a = 0.74080 - 1.57518I$ $b = -1.97912 + 1.22742I$ | $12.0155 - 15.5095I$ | $6.35642 + 7.98500I$ |
| $u = -0.740988 - 1.111297I$ $a = -0.416516 - 0.626066I$ $b = 1.100782 + 0.459681I$ | $2.93656 + 4.60816I$ | $9.62564 - 9.40083I$ |
| $u = -0.740988 + 1.111297I$ $a = -0.416516 + 0.626066I$ $b = 1.100782 - 0.459681I$ | $2.93656 - 4.60816I$ | $9.62564 + 9.40083I$ |

| Solution to I_2^u | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|--|---------------------------------------|----------------------|
| $u = -0.682399 - 0.719924I$ $a = -1.23035 - 1.67753I$ $b = 1.76486 - 0.40888I$ | $4.48457 + 0.21946I$ | $9.76655 + 0.22925I$ |
| $u = -0.682399 + 0.719924I$ $a = -1.23035 + 1.67753I$ $b = 1.76486 + 0.40888I$ | $4.48457 - 0.21946I$ | $9.76655 - 0.22925I$ |
| $u = -0.679271 - 0.835623I$ $a = -1.61989 - 0.15201I$ $b = 2.35812 - 0.08327I$ | $10.85986 + 4.67168I$ | $9.79339 - 7.13525I$ |
| $u = -0.679271 + 0.835623I$ $a = -1.61989 + 0.15201I$ $b = 2.35812 + 0.08327I$ | $10.85986 - 4.67168I$ | $9.79339 + 7.13525I$ |
| $u = -0.676138 - 0.881444I$ $a = 0.55132 + 2.19570I$ $b = -0.80089 - 1.24776I$ | $10.71769 + 0.56043I$ | $9.40588 + 0.00393I$ |
| $u = -0.676138 + 0.881444I$ $a = 0.55132 - 2.19570I$ $b = -0.80089 + 1.24776I$ | $10.71769 - 0.56043I$ | $9.40588 - 0.00393I$ |
| $u = -0.670107 - 1.042706I$ $a = -1.08924 - 1.73508I$ $b = 1.87813 + 1.37154I$ | $6.20108 + 9.04828I$ | $5.35350 - 8.43215I$ |
| $u = -0.670107 + 1.042706I$ $a = -1.08924 + 1.73508I$ $b = 1.87813 - 1.37154I$ | $6.20108 - 9.04828I$ | $5.35350 + 8.43215I$ |
| $u = -0.662475 - 0.965347I$ $a = 0.39206 + 1.75030I$ $b = -2.20366 - 1.33454I$ | $3.73550 + 4.99700I$ | $7.69892 - 5.91791I$ |
| $u = -0.662475 + 0.965347I$ $a = 0.39206 - 1.75030I$ $b = -2.20366 + 1.33454I$ | $3.73550 - 4.99700I$ | $7.69892 + 5.91791I$ |

| Solution to I_2^u | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---------------------------------------|-----------------------|
| $u = -0.580708 - 0.850266I$ $a = -0.09984 - 1.53844I$ $b = 1.18022 + 1.30803I$ | $0.31179 + 2.36087I$ | $1.49175 - 2.57935I$ |
| $u = -0.580708 + 0.850266I$ $a = -0.09984 + 1.53844I$ $b = 1.18022 - 1.30803I$ | $0.31179 - 2.36087I$ | $1.49175 + 2.57935I$ |
| $u = -0.560999 - 0.890607I$ $a = 0.901248 + 0.887950I$ $b = -1.123087 - 0.145058I$ | $0.19847 + 2.17667I$ | $0.68586 - 2.94537I$ |
| $u = -0.560999 + 0.890607I$ $a = 0.901248 - 0.887950I$ $b = -1.123087 + 0.145058I$ | $0.19847 - 2.17667I$ | $0.68586 + 2.94537I$ |
| $u = -0.329606 - 0.827830I$ $a = -0.744547 - 0.255067I$ $b = -0.658171 - 0.496693I$ | $-1.07794 + 1.38861I$ | $3.80624 - 5.85827I$ |
| $u = -0.329606 + 0.827830I$ $a = -0.744547 + 0.255067I$ $b = -0.658171 + 0.496693I$ | $-1.07794 - 1.38861I$ | $3.80624 + 5.85827I$ |
| $u = -0.200980 - 0.371837I$ $a = 1.167701 - 0.392516I$ $b = -0.185739 + 0.583702I$ | $0.196594 + 0.980812I$ | $3.31524 - 7.18006I$ |
| $u = -0.200980 + 0.371837I$ $a = 1.167701 + 0.392516I$ $b = -0.185739 - 0.583702I$ | $0.196594 - 0.980812I$ | $3.31524 + 7.18006I$ |
| $u = -0.121641 - 1.174721I$ $a = 0.369152 + 0.099857I$ $b = 0.255632 - 0.559469I$ | $-0.89603 + 4.38119I$ | $-0.51532 - 7.20526I$ |
| $u = -0.121641 + 1.174721I$ $a = 0.369152 - 0.099857I$ $b = 0.255632 + 0.559469I$ | $-0.89603 - 4.38119I$ | $-0.51532 + 7.20526I$ |

| Solution to I_2^u | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|--|---------------------------------------|-----------------------|
| $u = -0.048348 - 0.578810I$ $a = 1.07679 + 1.80521I$ $b = -0.08471 - 2.14145I$ | $7.98310 - 2.39539I$ | $0.93069 + 3.35074I$ |
| $u = -0.048348 + 0.578810I$ $a = 1.07679 - 1.80521I$ $b = -0.08471 + 2.14145I$ | $7.98310 + 2.39539I$ | $0.93069 - 3.35074I$ |
| $u = -0.044418 - 0.942425I$ $a = 0.778527 - 0.594326I$ $b = 0.054693 + 1.177580I$ | $0.0186179 + 0.0387429I$ | $2.01008 + 0.21128I$ |
| $u = -0.044418 + 0.942425I$ $a = 0.778527 + 0.594326I$ $b = 0.054693 - 1.177580I$ | $0.0186179 - 0.0387429I$ | $2.01008 - 0.21128I$ |
| $u = -0.041798 - 0.750414I$ $a = -0.18425 + 2.92590I$ $b = 0.587405 - 1.200834I$ | $7.39577 + 2.70914I$ | $3.02703 - 2.65745I$ |
| $u = -0.041798 + 0.750414I$ $a = -0.18425 - 2.92590I$ $b = 0.587405 + 1.200834I$ | $7.39577 - 2.70914I$ | $3.02703 + 2.65745I$ |
| $u = 0.033263 - 1.144423I$ $a = -0.002618 - 0.857139I$ $b = -0.688141 + 0.356752I$ | $1.70877 - 2.32867I$ | $1.02108 + 3.01755I$ |
| $u = 0.033263 + 1.144423I$ $a = -0.002618 + 0.857139I$ $b = -0.688141 - 0.356752I$ | $1.70877 + 2.32867I$ | $1.02108 - 3.01755I$ |
| $u = 0.0382466$ $a = -33.5056$ $b = 0.568973$ | 2.83439 | -1.00583 |
| $u = 0.088329 - 0.994872I$ $a = -0.295949 + 0.444762I$ $b = -0.631721 - 0.046161I$ | $-3.44236 + 0.72466I$ | $-6.99887 - 1.47430I$ |

| Solution to I_2^u | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|--|---------------------------------------|-----------------------|
| $u = 0.088329 + 0.994872I$ $a = -0.295949 - 0.444762I$ $b = -0.631721 + 0.046161I$ | $-3.44236 - 0.72466I$ | $-6.99887 + 1.47430I$ |
| $u = 0.263799 - 1.354582I$ $a = 0.225448 + 0.215617I$ $b = 0.321441 + 0.143596I$ | $5.11820 - 7.37502I$ | $3.42028 + 8.07294I$ |
| $u = 0.263799 + 1.354582I$ $a = 0.225448 - 0.215617I$ $b = 0.321441 - 0.143596I$ | $5.11820 + 7.37502I$ | $3.42028 - 8.07294I$ |
| $u = 0.604424 - 0.639267I$ $a = 1.11387 - 1.06523I$ $b = -1.313395 + 0.230321I$ | $0.80579 + 1.40750I$ | $3.20602 - 4.43919I$ |
| $u = 0.604424 + 0.639267I$ $a = 1.11387 + 1.06523I$ $b = -1.313395 - 0.230321I$ | $0.80579 - 1.40750I$ | $3.20602 + 4.43919I$ |
| $u = 0.623398 - 0.982401I$ $a = -0.69263 + 1.67554I$ $b = 1.57749 - 1.32714I$ | $-0.20027 - 6.31062I$ | $0.56516 + 9.01954I$ |
| $u = 0.623398 + 0.982401I$ $a = -0.69263 - 1.67554I$ $b = 1.57749 + 1.32714I$ | $-0.20027 + 6.31062I$ | $0.56516 - 9.01954I$ |
| $u = 0.632519 - 0.943685I$ $a = -1.013815 + 0.308207I$ $b = 1.74738 - 0.06665I$ | $3.61989 - 4.42085I$ | $9.33820 + 6.15803I$ |
| $u = 0.632519 + 0.943685I$ $a = -1.013815 - 0.308207I$ $b = 1.74738 + 0.06665I$ | $3.61989 + 4.42085I$ | $9.33820 - 6.15803I$ |
| $u = 0.642292 - 0.738861I$ $a = 0.19567 - 1.89888I$ $b = -0.597456 + 0.906017I$ | $4.25449 - 0.57931I$ | $12.03292 - 0.22806I$ |

| Solution to I_2^u | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---------------------------------------|-----------------------|
| $u = 0.642292 + 0.738861I$ $a = 0.19567 + 1.89888I$ $b = -0.597456 - 0.906017I$ | $4.25449 + 0.57931I$ | $12.03292 + 0.22806I$ |
| $u = 0.699831 - 0.881652I$ $a = -1.52374 + 1.14787I$ $b = 1.28252 + 0.68137I$ | $11.26674 - 5.74067I$ | $8.82347 + 5.81085I$ |
| $u = 0.699831 + 0.881652I$ $a = -1.52374 - 1.14787I$ $b = 1.28252 - 0.68137I$ | $11.26674 + 5.74067I$ | $8.82347 - 5.81085I$ |
| $u = 0.700232 - 1.058398I$ $a = 0.66991 - 1.63091I$ $b = -2.05492 + 1.17476I$ | $4.39822 - 11.29904I$ | $4.40025 + 8.97413I$ |
| $u = 0.700232 + 1.058398I$ $a = 0.66991 + 1.63091I$ $b = -2.05492 - 1.17476I$ | $4.39822 + 11.29904I$ | $4.40025 - 8.97413I$ |
| $u = 0.704366 - 0.840178I$ $a = 0.075881 - 1.139087I$ $b = -1.85243 + 1.36656I$ | $11.39433 + 0.35805I$ | $9.09727 + 0.68256I$ |
| $u = 0.704366 + 0.840178I$ $a = 0.075881 + 1.139087I$ $b = -1.85243 - 1.36656I$ | $11.39433 - 0.35805I$ | $9.09727 - 0.68256I$ |
| $u = 0.706486 - 1.065941I$ $a = 0.786952 - 0.747021I$ $b = -0.933521 + 0.071908I$ | $6.10007 - 5.08359I$ | $5.69636 + 1.21643I$ |
| $u = 0.706486 + 1.065941I$ $a = 0.786952 + 0.747021I$ $b = -0.933521 - 0.071908I$ | $6.10007 + 5.08359I$ | $5.69636 - 1.21643I$ |
| $u = 0.820849 - 0.561471I$ $a = -0.012033 + 0.700652I$ $b = 0.969968 - 0.828959I$ | $7.58253 - 0.63888I$ | $6.93084 + 2.84898I$ |

| Solution to I_2^u | $\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$ | Cusp shape |
|---|---------------------------------------|----------------------|
| $u = 0.820849 + 0.561471I$ $a = -0.012033 - 0.700652I$ $b = 0.969968 + 0.828959I$ | $7.58253 + 0.63888I$ | $6.93084 - 2.84898I$ |
| $u = 0.845002 - 0.591998I$ $a = -0.81657 + 1.20146I$ $b = 1.52094 + 0.24743I$ | $5.80090 + 5.54175I$ | $6.66135 - 4.61157I$ |
| $u = 0.845002 + 0.591998I$ $a = -0.81657 - 1.20146I$ $b = 1.52094 - 0.24743I$ | $5.80090 - 5.54175I$ | $6.66135 + 4.61157I$ |
| $u = 0.86616 - 1.20415I$ $a = -0.281037 + 0.721132I$ $b = 0.915708 - 0.609917I$ | $9.42380 - 4.94858I$ | $8.01638 + 6.56689I$ |
| $u = 0.86616 + 1.20415I$ $a = -0.281037 - 0.721132I$ $b = 0.915708 + 0.609917I$ | $9.42380 + 4.94858I$ | $8.01638 - 6.56689I$ |
| $u = 1.231449 - 0.468321I$ $a = 0.099978 - 0.454229I$ $b = -0.627535 + 0.148459I$ | $11.62148 - 2.40537I$ | $14.8813 + 1.5796I$ |
| $u = 1.231449 + 0.468321I$ $a = 0.099978 + 0.454229I$ $b = -0.627535 - 0.148459I$ | $11.62148 + 2.40537I$ | $14.8813 - 1.5796I$ |

III. u-Polynomials

| Crossings | u-Polynomials at each crossings |
|-----------|--|
| c_1 | $(u^{12} - u^{11} + \dots - u + 1)(u^{67} + 12u^{65} + \dots + 23u + 1)$ |
| c_2 | $(u^{12} + 5u^{11} + \dots + 5u + 1)(u^{67} + 24u^{66} + \dots + 655u - 1)$ |
| c_3 | $(u^{12} + 7u^{10} + 17u^8 + u^7 + 15u^6 + 4u^5 + u^4 + 4u^3 - u^2 + 1)$ $(u^{67} + u^{66} + \dots + 34u - 11)$ |
| c_4 | $(u^{12} - u^{10} - 3u^9 - u^8 + 3u^7 + 4u^6 + u^5 - 2u^3 - u^2 + 1)$ $(u^{67} + 3u^{66} + \dots - 56360u - 14843)$ |
| c_5 | $(u^{12} + u^{11} + \dots + u + 1)(u^{67} + 12u^{65} + \dots + 23u + 1)$ |
| c_6 | $(u^{12} - 2u^{11} - 5u^{10} + 12u^9 + 9u^8 - 29u^7 - 6u^6 + 35u^5 - 21u^3 + 5u + 2)$ $(u^{67} + u^{66} + \dots + 178u - 14)$ |
| c_7 | $(u^{12} + 7u^{10} + 17u^8 - u^7 + 15u^6 - 4u^5 + u^4 - 4u^3 - u^2 + 1)$ $(u^{67} + u^{66} + \dots + 34u - 11)$ |
| c_8 | $(u^{12} + 7u^{10} + 17u^8 - u^7 + 15u^6 - 4u^5 + u^4 - 4u^3 - u^2 + 1)$ $(u^{67} + u^{66} + \dots + 34u - 11)$ |
| c_9 | $(u^{12} - u^{10} - 2u^9 + u^7 + 4u^6 + 3u^5 - u^4 - 3u^3 - u^2 + 1)$ $(u^{67} + u^{66} + \dots + 1218u - 523)$ |
| c_{10} | $(u^{12} + 2u^{11} - 5u^{10} - 12u^9 + 9u^8 + 29u^7 - 6u^6 - 35u^5 + 21u^3 - 5u + 2)$ $(u^{67} + u^{66} + \dots + 178u - 14)$ |
| c_{11} | $(u^{12} - 2u^{11} + \dots - 2u + 1)(u^{67} + 11u^{66} + \dots + 19734u + 3697)$ |

IV. Riley Polynomials

| Crossings | Riley Polynomials at each crossings |
|------------|---|
| c_1, c_5 | $(y^{12} + 5y^{11} + \dots + 5y + 1)(y^{67} + 24y^{66} + \dots + 655y - 1)$ |
| c_2 | $(y^{12} + 9y^{11} + \dots + 9y + 1)(y^{67} + 44y^{66} + \dots + 467315y - 1)$ |
| c_3, c_8 | $(y^{12} + 14y^{11} + \dots - 2y + 1)(y^{67} + 73y^{66} + \dots - 5026y - 121)$ |
| c_4 | $(y^{12} - 2y^{11} + \dots - 2y + 1)$ $(y^{67} - 31y^{66} + \dots + 4845129346y - 220314649)$ |
| c_6 | $(y^{12} - 14y^{11} + \dots - 25y + 4)(y^{67} - 59y^{66} + \dots + 2144y - 196)$ |
| c_7 | $(y^{12} + 14y^{11} + \dots - 2y + 1)(y^{67} + 73y^{66} + \dots - 5026y - 121)$ |
| c_9 | $(y^{12} - 2y^{11} + \dots - 2y + 1)(y^{67} - 19y^{66} + \dots + 1068262y - 273529)$ |
| c_{10} | $(y^{12} - 14y^{11} + \dots - 25y + 4)(y^{67} - 59y^{66} + \dots + 2144y - 196)$ |
| c_{11} | $(y^{12} + 2y^{11} - y^{10} - 4y^9 + 9y^8 + 5y^7 - 9y^6 - 6y^5 + 9y^4 - y^2 + 2y + 1)$ $(y^{67} + 25y^{66} + \dots - 401527606y - 13667809)$ |