

I.

$$I_1^u = \langle b^4 + 5b^2 + 6b + 13, -b^3 + 3b^2 - 3b + 11u + 3, -4b^3 + b^2 - 34b + 55a - 43 \rangle$$

(i) Arc colorings

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

$$a_5 = \begin{pmatrix} 0 \\ 0.0909091b^3 - 0.272727b^2 + 0.272727b - 0.272727 \end{pmatrix}$$

$$a_6 = \begin{pmatrix} 0.0909091b^3 - 0.272727b^2 + 0.272727b - 0.272727 \\ 0.0909091b^3 - 0.272727b^2 + 0.272727b - 0.272727 \end{pmatrix}$$

$$a_{10} = \begin{pmatrix} 0.0727273b^3 - 0.0181818b^2 + 0.618182b + 0.781818 \\ b \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} 0.0727273b^3 - 0.0181818b^2 + 0.618182b + 0.781818 \\ -0.0727273b^3 + 0.0181818b^2 + 0.381818b - 0.781818 \end{pmatrix}$$

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

$$a_3 = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$

$$a_7 = \begin{pmatrix} 0.0909091b^3 - 0.272727b^2 + 0.272727b - 0.272727 \\ 0.0909091b^3 - 0.272727b^2 + 0.272727b - 0.272727 \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -0.145455b^3 + 0.0363636b^2 - 0.236364b - 0.563636 \\ -0.145455b^3 + 0.0363636b^2 - 0.236364b + 0.436364 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 0.0727273b^3 - 0.0181818b^2 + 0.618182b - 0.218182 \\ -0.0181818b^3 + 0.254545b^2 + 0.345455b + 0.0545455 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.163636b^3 - 0.290909b^2 + 0.890909b - 0.490909 \\ 0.0727273b^3 - 0.0181818b^2 + 0.618182b - 0.218182 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 0.163636b^3 - 0.290909b^2 + 0.890909b - 0.490909 \\ 0.0727273b^3 - 0.0181818b^2 + 0.618182b - 0.218182 \end{pmatrix}$$

(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
$u = -1.00000I$		
$a = 0.500000 - 0.866025I$	$-3.28987 - 2.02988I$	$-10.00000 + 3.46410I$
$b = -0.86603 - 1.23205I$		
$u = 1.00000I$		
$a = 0.500000 + 0.866025I$	$-3.28987 + 2.02988I$	$-10.00000 - 3.46410I$
$b = -0.86603 + 1.23205I$		
$u = 1.00000I$		
$a = 0.500000 - 0.866025I$	$-3.28987 - 2.02988I$	$-10.00000 + 3.46410I$
$b = 0.86603 - 2.23205I$		
$u = -1.00000I$		
$a = 0.500000 + 0.866025I$	$-3.28987 + 2.02988I$	$-10.00000 - 3.46410I$
$b = 0.86603 + 2.23205I$		

II.

$$I_2^u = \langle u^{25} + 6u^{23} + \dots + u + 1, -2u^{24} - u^{23} + \dots + 2a - 4, -5u^{24} - u^{23} + \dots + 4b - 5 \rangle$$

(i) Arc colorings

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

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} u^{24} + \frac{1}{2}u^{23} + \dots + \frac{5}{2}u + 2 \\ \frac{5}{4}u^{24} + \frac{1}{4}u^{23} + \dots + \frac{7}{2}u + \frac{5}{4} \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} u^{24} + \frac{1}{2}u^{23} + \dots + \frac{5}{2}u + 2 \\ \frac{3}{4}u^{24} + \frac{1}{4}u^{23} + \dots + 2u + \frac{3}{4} \end{pmatrix}$$

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

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

$$a_7 = \begin{pmatrix} -u^7 - 2u^5 - 2u^3 \\ -u^7 - u^5 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} -\frac{1}{4}u^{24} - \frac{1}{4}u^{23} + \dots - \frac{1}{2}u - \frac{5}{4} \\ -\frac{1}{4}u^{24} - \frac{1}{4}u^{23} + \dots - \frac{1}{2}u - \frac{1}{4} \end{pmatrix}$$

$$a_9 = \begin{pmatrix} \frac{1}{4}u^{24} - \frac{1}{4}u^{23} + \dots + u - \frac{1}{4} \\ \frac{1}{4}u^{24} - \frac{1}{4}u^{23} + \dots + u - \frac{1}{4} \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{1}{4}u^{24} - \frac{1}{4}u^{23} + \dots + u - \frac{1}{4} \\ \frac{1}{4}u^{24} - \frac{1}{4}u^{23} + \dots + u - \frac{1}{4} \end{pmatrix}$$

$$a_8 = \begin{pmatrix} \frac{1}{4}u^{24} - \frac{1}{4}u^{23} + \dots + u - \frac{1}{4} \\ \frac{1}{4}u^{24} - \frac{1}{4}u^{23} + \dots + u - \frac{1}{4} \end{pmatrix}$$

(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
$u = -0.781060 - 0.295309I$ $a = -1.39368 - 0.36086I$ $b = 0.807542 - 0.653491I$	$2.49934 - 5.05647I$	$0.76088 + 3.39553I$
$u = -0.781060 + 0.295309I$ $a = -1.39368 + 0.36086I$ $b = 0.807542 + 0.653491I$	$2.49934 + 5.05647I$	$0.76088 - 3.39553I$
$u = -0.663122 - 0.885711I$ $a = -0.040572 - 1.073338I$ $b = 0.58386 - 1.92156I$	$4.05826 + 8.02736I$	$-0.26249 - 8.69949I$
$u = -0.663122 + 0.885711I$ $a = -0.040572 + 1.073338I$ $b = 0.58386 + 1.92156I$	$4.05826 - 8.02736I$	$-0.26249 + 8.69949I$
$u = -0.631724$ $a = 1.51528$ $b = -0.772614$	-1.87036	-4.25159
$u = -0.562594 - 1.178703I$ $a = -0.772109 + 0.146647I$ $b = -1.107895 + 0.043144I$	$-1.63771 + 9.61928I$	$-3.84139 - 5.85883I$
$u = -0.562594 + 1.178703I$ $a = -0.772109 - 0.146647I$ $b = -1.107895 - 0.043144I$	$-1.63771 - 9.61928I$	$-3.84139 + 5.85883I$
$u = -0.496157 - 1.112702I$ $a = 0.429936 + 0.529427I$ $b = 0.548055 + 0.832531I$	$-2.95653 + 6.50680I$	$-4.30037 - 6.80019I$
$u = -0.496157 + 1.112702I$ $a = 0.429936 - 0.529427I$ $b = 0.548055 - 0.832531I$	$-2.95653 - 6.50680I$	$-4.30037 + 6.80019I$
$u = -0.387315 - 0.828510I$ $a = -0.146944 + 1.127202I$ $b = 0.29155 + 2.05556I$	$-2.29786 + 4.38512I$	$-6.23003 - 9.05656I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.387315 + 0.828510I$ $a = -0.146944 - 1.127202I$ $b = 0.29155 - 2.05556I$	$-2.29786 - 4.38512I$	$-6.23003 + 9.05656I$
$u = -0.147311 - 0.674791I$ $a = 0.90711 - 1.21946I$ $b = -0.11647 - 1.48972I$	$-1.78656 - 1.53483I$	$-3.61707 + 0.13208I$
$u = -0.147311 + 0.674791I$ $a = 0.90711 + 1.21946I$ $b = -0.11647 + 1.48972I$	$-1.78656 + 1.53483I$	$-3.61707 - 0.13208I$
$u = 0.440401 - 1.120685I$ $a = 0.770213 + 0.644268I$ $b = -0.36700 + 2.12484I$	$-4.91803 - 1.59228I$	$-7.91949 + 2.30620I$
$u = 0.440401 + 1.120685I$ $a = 0.770213 - 0.644268I$ $b = -0.36700 - 2.12484I$	$-4.91803 + 1.59228I$	$-7.91949 - 2.30620I$
$u = 0.447856 - 0.612567I$ $a = 0.589650 - 0.407541I$ $b = 0.125186 - 0.198539I$	$0.53657 - 1.46473I$	$1.57744 + 4.49882I$
$u = 0.447856 + 0.612567I$ $a = 0.589650 + 0.407541I$ $b = 0.125186 + 0.198539I$	$0.53657 + 1.46473I$	$1.57744 - 4.49882I$
$u = 0.502100 - 1.180637I$ $a = -0.287584 - 0.836972I$ $b = 0.19843 - 3.25777I$	$-8.02282 - 8.65791I$	$-10.60850 + 6.91846I$
$u = 0.502100 + 1.180637I$ $a = -0.287584 + 0.836972I$ $b = 0.19843 + 3.25777I$	$-8.02282 + 8.65791I$	$-10.60850 - 6.91846I$
$u = 0.562275 - 1.202521I$ $a = -0.140737 + 0.939844I$ $b = 0.31160 + 3.40458I$	$-2.9757 - 15.3316I$	$-5.87847 + 10.26197I$

Solution to I_2^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.562275 + 1.202521I$ $a = -0.140737 - 0.939844I$ $b = 0.31160 - 3.40458I$	$-2.9757 + 15.3316I$	$-5.87847 - 10.26197I$
$u = 0.668066 - 0.826958I$ $a = -1.041653 - 0.129484I$ $b = -0.197957 + 0.377137I$	$4.42357 - 2.28876I$	$0.90025 + 3.22916I$
$u = 0.668066 + 0.826958I$ $a = -1.041653 + 0.129484I$ $b = -0.197957 - 0.377137I$	$4.42357 + 2.28876I$	$0.90025 - 3.22916I$
$u = 0.732724 - 0.365786I$ $a = 0.368725 + 1.207634I$ $b = 0.309394 + 0.423970I$	$3.32057 - 0.44324I$	$2.54503 + 2.33373I$
$u = 0.732724 + 0.365786I$ $a = 0.368725 - 1.207634I$ $b = 0.309394 - 0.423970I$	$3.32057 + 0.44324I$	$2.54503 - 2.33373I$

III.

$$I_3^u = \langle u^{40} - u^{39} + \dots - 2u + 1, 1.12 \times 10^{10}u^{39} + 2.05 \times 10^9u^{38} + \dots + 7.87 \times 10^9a - 3.79 \times 10^9, 1.30 \times 10^{10}u^{39} + 3.22 \times 10^9u^{38} + \dots + 7.87 \times 10^9b - 1.96 \times 10^{10} \rangle$$

(i) Arc colorings

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

$$a_5 = \begin{pmatrix} 0 \\ u \end{pmatrix}$$

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

$$a_{10} = \begin{pmatrix} -1.41907u^{39} - 0.260044u^{38} + \dots + 2.38675u + 0.481523 \\ -1.65835u^{39} - 0.409837u^{38} + \dots + 2.11668u + 2.49055 \end{pmatrix}$$

$$a_{11} = \begin{pmatrix} -1.41907u^{39} - 0.260044u^{38} + \dots + 2.38675u + 0.481523 \\ -1.80941u^{39} + 0.152485u^{38} + \dots + 0.177519u + 4.16967 \end{pmatrix}$$

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

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

$$a_7 = \begin{pmatrix} -u^7 - 2u^5 - 2u^3 \\ -u^7 - u^5 + u \end{pmatrix}$$

$$a_4 = \begin{pmatrix} 2.79806u^{39} - 0.712562u^{38} + \dots - 1.36848u - 3.99047 \\ 0.272066u^{39} + 1.08152u^{38} + \dots - 1.93056u - 1.92049 \end{pmatrix}$$

$$a_9 = \begin{pmatrix} 3.07474u^{39} - 2.42094u^{38} + \dots + 3.12405u - 6.95550 \\ -0.931251u^{39} + 0.401100u^{38} + \dots - 3.24374u + 1.61411 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 3.87864u^{39} - 2.79754u^{38} + \dots + 2.66933u - 7.12471 \\ -0.731909u^{39} - 0.109128u^{38} + \dots - 1.98201u + 2.52599 \end{pmatrix}$$

$$a_8 = \begin{pmatrix} 3.87864u^{39} - 2.79754u^{38} + \dots + 2.66933u - 7.12471 \\ -0.731909u^{39} - 0.109128u^{38} + \dots - 1.98201u + 2.52599 \end{pmatrix}$$

(ii) Obstruction class = -1

(iii) Cusp Shapes = unknown

(iv) Complex Volumes and Cusp Shapes

Solution to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.847173 - 0.247485I$ $a = 0.447737 - 1.067113I$ $b = 0.107307 - 0.276889I$	$1.14075 - 4.43308I$	$-0.68370 + 2.52728I$
$u = -0.847173 + 0.247485I$ $a = 0.447737 + 1.067113I$ $b = 0.107307 + 0.276889I$	$1.14075 + 4.43308I$	$-0.68370 - 2.52728I$
$u = -0.703070 - 0.667774I$ $a = -1.182479 + 0.051328I$ $b = 0.183317 - 0.470382I$	$4.68486 - 2.84648I$	$1.60998 + 2.97861I$
$u = -0.703070 + 0.667774I$ $a = -1.182479 - 0.051328I$ $b = 0.183317 + 0.470382I$	$4.68486 + 2.84648I$	$1.60998 - 2.97861I$
$u = -0.605286 - 0.255049I$ $a = 0.795648 + 0.646494I$ $b = 0.154511 - 0.001917I$	$-0.52569 - 2.16136I$	$-0.73748 + 3.31855I$
$u = -0.605286 + 0.255049I$ $a = 0.795648 - 0.646494I$ $b = 0.154511 + 0.001917I$	$-0.52569 + 2.16136I$	$-0.73748 - 3.31855I$
$u = -0.555192 - 1.143400I$ $a = -0.140911 - 0.965124I$ $b = 0.52723 - 3.21694I$	$-0.00745 + 10.05773I$	$-2.70834 - 7.26612I$
$u = -0.555192 + 1.143400I$ $a = -0.140911 + 0.965124I$ $b = 0.52723 + 3.21694I$	$-0.00745 - 10.05773I$	$-2.70834 + 7.26612I$
$u = -0.444139 - 1.139192I$ $a = -0.256325 + 0.841586I$ $b = -0.01844 + 3.06905I$	$-4.94645 + 3.96853I$	$-7.89349 - 3.79787I$
$u = -0.444139 + 1.139192I$ $a = -0.256325 - 0.841586I$ $b = -0.01844 - 3.06905I$	$-4.94645 - 3.96853I$	$-7.89349 + 3.79787I$

Solution to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = -0.416062 - 1.082122I$ $a = -0.753531 + 0.278007I$ $b = -1.345714 - 0.410046I$	$-3.61438 + 0.81573I$	$-5.67172 - 1.07888I$
$u = -0.416062 + 1.082122I$ $a = -0.753531 - 0.278007I$ $b = -1.345714 + 0.410046I$	$-3.61438 - 0.81573I$	$-5.67172 + 1.07888I$
$u = -0.276270 - 1.238297I$ $a = 0.432851 + 0.592699I$ $b = 0.47678 + 1.39362I$	$-3.61438 - 0.81573I$	$-5.67172 + 1.07888I$
$u = -0.276270 + 1.238297I$ $a = 0.432851 - 0.592699I$ $b = 0.47678 - 1.39362I$	$-3.61438 + 0.81573I$	$-5.67172 - 1.07888I$
$u = -0.240047 - 1.118773I$ $a = 0.677753 - 0.722348I$ $b = -0.10681 - 1.98108I$	$-2.02098 - 2.13456I$	$-4.50898 + 2.16962I$
$u = -0.240047 + 1.118773I$ $a = 0.677753 + 0.722348I$ $b = -0.10681 + 1.98108I$	$-2.02098 + 2.13456I$	$-4.50898 - 2.16962I$
$u = -0.219360 - 0.513597I$ $a = -0.42403 - 1.78400I$ $b = 1.46754 + 0.30050I$	$-1.62333 + 2.35832I$	$-2.35225 - 4.49783I$
$u = -0.219360 + 0.513597I$ $a = -0.42403 + 1.78400I$ $b = 1.46754 - 0.30050I$	$-1.62333 - 2.35832I$	$-2.35225 + 4.49783I$
$u = -0.179409 - 1.047169I$ $a = -0.079124 + 0.461828I$ $b = -1.19172 + 1.14189I$	-3.97005	-10.7621
$u = -0.179409 + 1.047169I$ $a = -0.079124 - 0.461828I$ $b = -1.19172 - 1.14189I$	-3.97005	-10.7621

Solution to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.017851 - 1.176953I$ $a = 0.506815 - 0.707156I$ $b = 0.17295 - 1.78784I$	$-1.62333 - 2.35832I$	$-2.35225 + 4.49783I$
$u = 0.017851 + 1.176953I$ $a = 0.506815 + 0.707156I$ $b = 0.17295 + 1.78784I$	$-1.62333 + 2.35832I$	$-2.35225 - 4.49783I$
$u = 0.312447 - 1.274982I$ $a = 0.670101 + 0.628921I$ $b = -0.06219 + 2.23627I$	$-4.77271 + 6.07240I$	$-7.45285 - 5.87540I$
$u = 0.312447 + 1.274982I$ $a = 0.670101 - 0.628921I$ $b = -0.06219 - 2.23627I$	$-4.77271 - 6.07240I$	$-7.45285 + 5.87540I$
$u = 0.386163 - 1.203065I$ $a = -0.257957 - 0.803647I$ $b = -0.30594 - 3.34874I$	-8.84775	-12.4403
$u = 0.386163 + 1.203065I$ $a = -0.257957 + 0.803647I$ $b = -0.30594 + 3.34874I$	-8.84775	-12.4403
$u = 0.406752 - 0.984604I$ $a = 0.402040 - 0.487747I$ $b = 0.223758 - 0.744400I$	$-0.52569 - 2.16136I$	$-0.73748 + 3.31855I$
$u = 0.406752 + 0.984604I$ $a = 0.402040 + 0.487747I$ $b = 0.223758 + 0.744400I$	$-0.52569 + 2.16136I$	$-0.73748 - 3.31855I$
$u = 0.460657 - 1.121821I$ $a = -0.185064 + 0.977416I$ $b = 1.00091 + 3.47105I$	$-4.77271 - 6.07240I$	$-7.45285 + 5.87540I$
$u = 0.460657 + 1.121821I$ $a = -0.185064 - 0.977416I$ $b = 1.00091 - 3.47105I$	$-4.77271 + 6.07240I$	$-7.45285 - 5.87540I$

Solution to I_3^u	$\sqrt{-1}(\text{vol} + \sqrt{-1}CS)$	Cusp shape
$u = 0.514794 - 0.049169I$ $a = -1.97635 + 0.94733I$ $b = 0.778878 + 1.019931I$	$-2.02098 + 2.13456I$	$-4.50898 - 2.16962I$
$u = 0.514794 + 0.049169I$ $a = -1.97635 - 0.94733I$ $b = 0.778878 - 1.019931I$	$-2.02098 - 2.13456I$	$-4.50898 + 2.16962I$
$u = 0.551606 - 1.104561I$ $a = -0.807615 - 0.179184I$ $b = -1.014579 + 0.130618I$	$1.14075 - 4.43308I$	$-0.68370 + 2.52728I$
$u = 0.551606 + 1.104561I$ $a = -0.807615 + 0.179184I$ $b = -1.014579 - 0.130618I$	$1.14075 + 4.43308I$	$-0.68370 - 2.52728I$
$u = 0.680660 - 0.735978I$ $a = 0.034446 + 1.144321I$ $b = 0.57824 + 1.34759I$	$4.68486 - 2.84648I$	$1.60998 + 2.97861I$
$u = 0.680660 + 0.735978I$ $a = 0.034446 - 1.144321I$ $b = 0.57824 - 1.34759I$	$4.68486 + 2.84648I$	$1.60998 - 2.97861I$
$u = 0.771680 - 0.120837I$ $a = 1.372850 + 0.109001I$ $b = -1.119838 + 0.289010I$	$-4.94645 + 3.96853I$	$-7.89349 - 3.79787I$
$u = 0.771680 + 0.120837I$ $a = 1.372850 - 0.109001I$ $b = -1.119838 - 0.289010I$	$-4.94645 - 3.96853I$	$-7.89349 + 3.79787I$
$u = 0.883398 - 0.214209I$ $a = -1.276848 + 0.479325I$ $b = 0.993805 + 0.629924I$	$-0.00745 + 10.05773I$	$-2.70834 - 7.26612I$
$u = 0.883398 + 0.214209I$ $a = -1.276848 - 0.479325I$ $b = 0.993805 - 0.629924I$	$-0.00745 - 10.05773I$	$-2.70834 + 7.26612I$

IV. u-Polynomials

Crossings	u-Polynomials at each crossings
c_1, c_3, c_5 c_7	$(u^2 + 1)^2(u^{25} + 6u^{23} + \dots + u - 1)(u^{40} + u^{39} + \dots + 2u + 1)$
c_2, c_8	$(u + 1)^4(u^{25} + 12u^{24} + \dots - 5u - 1)(u^{40} + 23u^{39} + \dots - 16u^2 + 1)$
c_4	$(u^4 - u^2 + 1)(u^{25} + 3u^{24} + \dots - 5u - 2)(u^{40} - 2u^{39} + \dots - 6u^2 + 1)$
c_6	u^4 $(-1 + 4u - 5u^2 + 9u^3 - 11u^4 - 30u^5 + 36u^6 + 72u^7 - 65u^8 - 82u^9 + 57u^{10} + 47u^{11} - 16u^{12}$ $(u^{25} + 3u^{24} + \dots + 16u + 32)$
c_9	$(u^2 + 1)(u^2 - u + 1)^2(u^{25} + 9u^{24} + \dots - 7u + 4)$ $(u^{38} + 14u^{37} + \dots + 12u + 1)$
c_{10}	$(u^4 - u^2 + 1)$ $(-1 + 3u^2 - 5u^3 - 3u^4 + 10u^5 + 2u^6 - 18u^7 + u^8 + 24u^9 - 7u^{10} - 23u^{11} + 10u^{12} + 18u^{13} - \dots$ $(u^{25} + 3u^{24} + \dots - 5u - 2)$
c_{11}	$(u^2 + u + 1)^2$ $(1 + 6u + 15u^2 + 47u^3 + 119u^4 + 272u^5 + 536u^6 + 908u^7 + 1343u^8 + 1730u^9 + 1959u^{10} + 19$ $(u^{25} + 9u^{24} + \dots - 7u + 4)$

V. Riley Polynomials

Crossings	Riley Polynomials at each crossings
c_1, c_3, c_5 c_7	$(y + 1)^4(y^{25} + 12y^{24} + \dots - 5y - 1)(y^{40} + 23y^{39} + \dots - 16y^2 + 1)$
c_2, c_8	$(y - 1)^4(y^{25} + 8y^{24} + \dots + 3y - 1)(y^{40} - 13y^{39} + \dots - 32y + 1)$
c_4	$(y^2 + 1)(y^2 - y + 1)^2(y^{25} - 9y^{24} + \dots - 7y - 4)$ $(y^{38} - 14y^{37} + \dots - 12y + 1)$
c_6	y^4 $(1 - 6y - 25y^2 + 197y^3 - 145y^4 - 1796y^5 + 7608y^6 - 1.66 \times 10^4 y^7 + 2.36 \times 10^4 y^8 - 2.23 \times 10^4 y^9 + 1.1 \times 10^4 y^{10} - 1.1 \times 10^4 y^{11} + 1.1 \times 10^4 y^{12} - 1.1 \times 10^4 y^{13} + 1.1 \times 10^4 y^{14} - 1.1 \times 10^4 y^{15} + 1.1 \times 10^4 y^{16} - 1.1 \times 10^4 y^{17} + 1.1 \times 10^4 y^{18} - 1.1 \times 10^4 y^{19} + 1.1 \times 10^4 y^{20} - 1.1 \times 10^4 y^{21} + 1.1 \times 10^4 y^{22} - 1.1 \times 10^4 y^{23} + 1.1 \times 10^4 y^{24} - 1.1 \times 10^4 y^{25})$ $(y^{25} - 11y^{24} + \dots - 13568y - 1024)$
c_9, c_{11}	$(y^2 + y + 1)^2(y^{25} + 15y^{24} + \dots + 273y - 16)$ $(y^{40} + 26y^{39} + \dots - 12y + 1)$
c_{10}	$(y^2 - y + 1)^2$ $(1 - 6y + 15y^2 - 47y^3 + 119y^4 - 272y^5 + 536y^6 - 908y^7 + 1343y^8 - 1730y^9 + 1959y^{10} - 1959y^{11} + 1730y^{12} - 1343y^{13} + 908y^{14} - 536y^{15} + 272y^{16} - 119y^{17} + 47y^{18} - 15y^{19} + 6y^{20} - 1y^{21} + 1y^{22} - 1y^{23} + 1y^{24} - 1y^{25})$ $(y^{25} - 9y^{24} + \dots - 7y - 4)$