

```

> # Set the parameters and functions
c :='c':
d :='d':
u :='u':
A4 := (9144 c - 39780) u8 + (86412 c2 - 3048 d3 - 318240 d) u7 + (310452 c3 - 7620 d5 - 378 d4
- 1166040 d2) u6 + (6604 c7 + 26514 c5 + 669699 c4 - 19586 d6 - 2438730 d3) u5 + (9322 c8
+ 914250 c5 - 508 d9 - 33226 d7 - 53151 d6 - 3050100 d4) u4 + (4318 c9 + 901644 c6
- 13049 d8 - 149022 d7 - 2080980 d5) u3 + (2286 c9 + 604962 c7 - 120033 d8 - 408240 d6) u2
+ (144477 c8 + 332910 c7 - 48006 d9) u + 159120 c8 - 36576 d9:
print(Output);
# find Sturm's sequence
for j from 0 by 1 to 119 do
  c :=  $\frac{404}{100} + \frac{j}{120} \cdot \left( \frac{4108}{1000} - \frac{404}{100} \right)$ :
  d :=  $\frac{404}{100} + \frac{j+1}{120} \cdot \left( \frac{4108}{1000} - \frac{404}{100} \right)$ :
  u :='u':
  S := sturmseq(A4, u);
  signnum := sturm(S, u, 0,  $\frac{57}{10}$ );
  with(ArrayTools):
  Slength := Size(S, 2);
  X := Array(1 .. Slength);
  Y := Array(1 .. Slength);

  for i from 1 to Slength do
    # Find sgn [sA4,i(0)]
    u := 0;
    X[i] := signum(S[i]);
    # Find sgn [sA4,i( $\frac{57}{10}$ )]
    u :=  $\frac{57}{10}$ :
    Y[i] := signum(S[i]);
  end do;
  print(['a'[j], 'a'[j+1], sgn(s['A'[4,j]](0)), sgn(s['A'[4,j]](5.7))]) = [evalf(c, 5), evalf(d, 5), X,
  Y];
end do:

```

Output

$$\begin{aligned}
[a_0, a_1, \text{sgn}(s_{A_{4,0}}(0)), \text{sgn}(s_{A_{4,0}}(5.7))] &= [4.0400, 4.0406, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 -1 -1]] \\
[a_1, a_2, \text{sgn}(s_{A_{4,1}}(0)), \text{sgn}(s_{A_{4,1}}(5.7))] &= [4.0406, 4.0411, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 -1 -1]] \\
[a_2, a_3, \text{sgn}(s_{A_{4,2}}(0)), \text{sgn}(s_{A_{4,2}}(5.7))] &= [4.0411, 4.0417, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 -1 -1]] \\
[a_3, a_4, \text{sgn}(s_{A_{4,3}}(0)), \text{sgn}(s_{A_{4,3}}(5.7))] &= [4.0417, 4.0423, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 -1 -1]] \\
[a_4, a_5, \text{sgn}(s_{A_{4,4}}(0)), \text{sgn}(s_{A_{4,4}}(5.7))] &= [4.0423, 4.0428, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 -1 -1]]
\end{aligned}$$

$$\begin{aligned}
& \left[a_5, a_6, sgn(s_{A_{4,5}}(0)), sgn(s_{A_{4,5}}(5.7)) \right] = [4.0428, 4.0434, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 1 -1 -1]] \\
& \left[a_6, a_7, sgn(s_{A_{4,6}}(0)), sgn(s_{A_{4,6}}(5.7)) \right] = [4.0434, 4.0440, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 1 -1 -1]] \\
& \left[a_7, a_8, sgn(s_{A_{4,7}}(0)), sgn(s_{A_{4,7}}(5.7)) \right] = [4.0440, 4.0445, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 1 -1 -1]] \\
& \left[a_8, a_9, sgn(s_{A_{4,8}}(0)), sgn(s_{A_{4,8}}(5.7)) \right] = [4.0445, 4.0451, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 1 -1 -1]] \\
& \left[a_9, a_{10}, sgn(s_{A_{4,9}}(0)), sgn(s_{A_{4,9}}(5.7)) \right] = [4.0451, 4.0457, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 1 -1 -1]] \\
& \left[a_{10}, a_{11}, sgn(s_{A_{4,10}}(0)), sgn(s_{A_{4,10}}(5.7)) \right] = [4.0457, 4.0462, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 1 -1 -1]] \\
& \left[a_{11}, a_{12}, sgn(s_{A_{4,11}}(0)), sgn(s_{A_{4,11}}(5.7)) \right] = [4.0462, 4.0468, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 1 -1 -1]] \\
& \left[a_{12}, a_{13}, sgn(s_{A_{4,12}}(0)), sgn(s_{A_{4,12}}(5.7)) \right] = [4.0468, 4.0474, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 1 -1 -1]] \\
& \left[a_{13}, a_{14}, sgn(s_{A_{4,13}}(0)), sgn(s_{A_{4,13}}(5.7)) \right] = [4.0474, 4.0479, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 1 -1 -1]] \\
& \left[a_{14}, a_{15}, sgn(s_{A_{4,14}}(0)), sgn(s_{A_{4,14}}(5.7)) \right] = [4.0479, 4.0485, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 1 -1 -1]] \\
& \left[a_{15}, a_{16}, sgn(s_{A_{4,15}}(0)), sgn(s_{A_{4,15}}(5.7)) \right] = [4.0485, 4.0491, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 1 -1 -1]] \\
& \left[a_{16}, a_{17}, sgn(s_{A_{4,16}}(0)), sgn(s_{A_{4,16}}(5.7)) \right] = [4.0491, 4.0496, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 1 -1 -1]] \\
& \left[a_{17}, a_{18}, sgn(s_{A_{4,17}}(0)), sgn(s_{A_{4,17}}(5.7)) \right] = [4.0496, 4.0502, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 1 -1 -1]] \\
& \left[a_{18}, a_{19}, sgn(s_{A_{4,18}}(0)), sgn(s_{A_{4,18}}(5.7)) \right] = [4.0502, 4.0508, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 1 -1 -1]] \\
& \left[a_{19}, a_{20}, sgn(s_{A_{4,19}}(0)), sgn(s_{A_{4,19}}(5.7)) \right] = [4.0508, 4.0513, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 1 -1 -1]] \\
& \left[a_{20}, a_{21}, sgn(s_{A_{4,20}}(0)), sgn(s_{A_{4,20}}(5.7)) \right] = [4.0513, 4.0519, [1 1 1 -1 1 1 -1 -1 -1], [1 -1 -1 1 1 1 1 1 -1 -1]] \\
& \left[a_{21}, a_{22}, sgn(s_{A_{4,21}}(0)), sgn(s_{A_{4,21}}(5.7)) \right] = [4.0519, 4.0525, [1 1 1 -1 1 1 -1 -1 -1], [\textcolor{blue}{1} \textcolor{blue}{1} \textcolor{blue}{-1} \textcolor{blue}{1} \textcolor{blue}{1} \textcolor{blue}{-1} \textcolor{blue}{-1} \textcolor{blue}{-1}]] \\
& \left[a_{22}, a_{23}, sgn(s_{A_{4,22}}(0)), sgn(s_{A_{4,22}}(5.7)) \right] = [4.0525, 4.0530, [1 1 1 -1 1 1 -1 -1 -1], [1 1 -1 1 1 1 -1 -1 -1]] \\
& \left[a_{23}, a_{24}, sgn(s_{A_{4,23}}(0)), sgn(s_{A_{4,23}}(5.7)) \right] = [4.0530, 4.0536, [1 1 1 -1 1 1 -1 -1 -1], [1 1 -1 1 1 1 -1 -1 -1]] \\
& \left[a_{24}, a_{25}, sgn(s_{A_{4,24}}(0)), sgn(s_{A_{4,24}}(5.7)) \right] = [4.0536, 4.0542, [1 1 1 -1 1 1 -1 -1 -1], [1 1 -1 1 1 1 -1 -1 -1]] \\
& \left[a_{25}, a_{26}, sgn(s_{A_{4,25}}(0)), sgn(s_{A_{4,25}}(5.7)) \right] = [4.0542, 4.0547, [1 1 1 -1 1 1 -1 -1 -1], [1 1 -1 1 1 1 -1 -1 -1]] \\
& \left[a_{26}, a_{27}, sgn(s_{A_{4,26}}(0)), sgn(s_{A_{4,26}}(5.7)) \right] = [4.0547, 4.0553, [1 1 1 -1 1 1 -1 -1 -1], [1 1 -1 1 1 1 -1 -1 -1]] \\
& \left[a_{27}, a_{28}, sgn(s_{A_{4,27}}(0)), sgn(s_{A_{4,27}}(5.7)) \right] = [4.0553, 4.0559, [1 1 1 -1 1 1 -1 -1 -1], [1 1 -1 1 1 1 -1 -1 -1]] \\
& \left[a_{28}, a_{29}, sgn(s_{A_{4,28}}(0)), sgn(s_{A_{4,28}}(5.7)) \right] = [4.0559, 4.0564, [\textcolor{blue}{1} \textcolor{blue}{1} \textcolor{blue}{1} \textcolor{blue}{-1} \textcolor{blue}{1} \textcolor{blue}{-1} \textcolor{blue}{-1} \textcolor{blue}{-1} \textcolor{blue}{-1}], [1 1 -1 1 1 1 -1 -1 -1]] \\
& \left[a_{29}, a_{30}, sgn(s_{A_{4,29}}(0)), sgn(s_{A_{4,29}}(5.7)) \right] = [4.0564, 4.0570, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 1 1 1 -1 -1 -1]] \\
& \left[a_{30}, a_{31}, sgn(s_{A_{4,30}}(0)), sgn(s_{A_{4,30}}(5.7)) \right] = [4.0570, 4.0576, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 1 1 1 -1 -1 -1]] \\
& \left[a_{31}, a_{32}, sgn(s_{A_{4,31}}(0)), sgn(s_{A_{4,31}}(5.7)) \right] = [4.0576, 4.0581, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 1 1 1 -1 -1 -1]] \\
& \left[a_{32}, a_{33}, sgn(s_{A_{4,32}}(0)), sgn(s_{A_{4,32}}(5.7)) \right] = [4.0581, 4.0587, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 1 1 1 -1 -1 -1]] \\
& \left[a_{33}, a_{34}, sgn(s_{A_{4,33}}(0)), sgn(s_{A_{4,33}}(5.7)) \right] = [4.0587, 4.0593, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 1 1 1 -1 -1 -1]] \\
& \left[a_{34}, a_{35}, sgn(s_{A_{4,34}}(0)), sgn(s_{A_{4,34}}(5.7)) \right] = [4.0593, 4.0598, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 1 1 1 -1 -1 -1]] \\
& \left[a_{35}, a_{36}, sgn(s_{A_{4,35}}(0)), sgn(s_{A_{4,35}}(5.7)) \right] = [4.0598, 4.0604, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 1 1 1 -1 -1 -1]] \\
& \left[a_{36}, a_{37}, sgn(s_{A_{4,36}}(0)), sgn(s_{A_{4,36}}(5.7)) \right] = [4.0604, 4.0610, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 1 1 1 -1 -1 -1]]
\end{aligned}$$

$$\begin{aligned}
& \left[a_{69}, a_{70}, sgn(s_{A_{4,69}}(0)), sgn(s_{A_{4,69}}(5.7)) \right] = [4.0791, 4.0797, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{70}, a_{71}, sgn(s_{A_{4,70}}(0)), sgn(s_{A_{4,70}}(5.7)) \right] = [4.0797, 4.0802, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{71}, a_{72}, sgn(s_{A_{4,71}}(0)), sgn(s_{A_{4,71}}(5.7)) \right] = [4.0802, 4.0808, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{72}, a_{73}, sgn(s_{A_{4,72}}(0)), sgn(s_{A_{4,72}}(5.7)) \right] = [4.0808, 4.0814, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{73}, a_{74}, sgn(s_{A_{4,73}}(0)), sgn(s_{A_{4,73}}(5.7)) \right] = [4.0814, 4.0819, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{74}, a_{75}, sgn(s_{A_{4,74}}(0)), sgn(s_{A_{4,74}}(5.7)) \right] = [4.0819, 4.0825, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{75}, a_{76}, sgn(s_{A_{4,75}}(0)), sgn(s_{A_{4,75}}(5.7)) \right] = [4.0825, 4.0831, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{76}, a_{77}, sgn(s_{A_{4,76}}(0)), sgn(s_{A_{4,76}}(5.7)) \right] = [4.0831, 4.0836, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{77}, a_{78}, sgn(s_{A_{4,77}}(0)), sgn(s_{A_{4,77}}(5.7)) \right] = [4.0836, 4.0842, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{78}, a_{79}, sgn(s_{A_{4,78}}(0)), sgn(s_{A_{4,78}}(5.7)) \right] = [4.0842, 4.0848, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{79}, a_{80}, sgn(s_{A_{4,79}}(0)), sgn(s_{A_{4,79}}(5.7)) \right] = [4.0848, 4.0853, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{80}, a_{81}, sgn(s_{A_{4,80}}(0)), sgn(s_{A_{4,80}}(5.7)) \right] = [4.0853, 4.0859, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{81}, a_{82}, sgn(s_{A_{4,81}}(0)), sgn(s_{A_{4,81}}(5.7)) \right] = [4.0859, 4.0865, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{82}, a_{83}, sgn(s_{A_{4,82}}(0)), sgn(s_{A_{4,82}}(5.7)) \right] = [4.0865, 4.0870, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{83}, a_{84}, sgn(s_{A_{4,83}}(0)), sgn(s_{A_{4,83}}(5.7)) \right] = [4.0870, 4.0876, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{84}, a_{85}, sgn(s_{A_{4,84}}(0)), sgn(s_{A_{4,84}}(5.7)) \right] = [4.0876, 4.0882, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{85}, a_{86}, sgn(s_{A_{4,85}}(0)), sgn(s_{A_{4,85}}(5.7)) \right] = [4.0882, 4.0887, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{86}, a_{87}, sgn(s_{A_{4,86}}(0)), sgn(s_{A_{4,86}}(5.7)) \right] = [4.0887, 4.0893, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{87}, a_{88}, sgn(s_{A_{4,87}}(0)), sgn(s_{A_{4,87}}(5.7)) \right] = [4.0893, 4.0899, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{88}, a_{89}, sgn(s_{A_{4,88}}(0)), sgn(s_{A_{4,88}}(5.7)) \right] = [4.0899, 4.0904, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{89}, a_{90}, sgn(s_{A_{4,89}}(0)), sgn(s_{A_{4,89}}(5.7)) \right] = [4.0904, 4.0910, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{90}, a_{91}, sgn(s_{A_{4,90}}(0)), sgn(s_{A_{4,90}}(5.7)) \right] = [4.0910, 4.0916, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{91}, a_{92}, sgn(s_{A_{4,91}}(0)), sgn(s_{A_{4,91}}(5.7)) \right] = [4.0916, 4.0921, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{92}, a_{93}, sgn(s_{A_{4,92}}(0)), sgn(s_{A_{4,92}}(5.7)) \right] = [4.0921, 4.0927, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{93}, a_{94}, sgn(s_{A_{4,93}}(0)), sgn(s_{A_{4,93}}(5.7)) \right] = [4.0927, 4.0933, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{94}, a_{95}, sgn(s_{A_{4,94}}(0)), sgn(s_{A_{4,94}}(5.7)) \right] = [4.0933, 4.0938, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{95}, a_{96}, sgn(s_{A_{4,95}}(0)), sgn(s_{A_{4,95}}(5.7)) \right] = [4.0938, 4.0944, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{96}, a_{97}, sgn(s_{A_{4,96}}(0)), sgn(s_{A_{4,96}}(5.7)) \right] = [4.0944, 4.0950, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{97}, a_{98}, sgn(s_{A_{4,97}}(0)), sgn(s_{A_{4,97}}(5.7)) \right] = [4.0950, 4.0955, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{98}, a_{99}, sgn(s_{A_{4,98}}(0)), sgn(s_{A_{4,98}}(5.7)) \right] = [4.0955, 4.0961, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{99}, a_{100}, sgn(s_{A_{4,99}}(0)), sgn(s_{A_{4,99}}(5.7)) \right] = [4.0961, 4.0967, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]] \\
& \left[a_{100}, a_{101}, sgn(s_{A_{4,100}}(0)), sgn(s_{A_{4,100}}(5.7)) \right] = [4.0967, 4.0972, [1 1 1 -1 1 -1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1 -1]]
\end{aligned}$$

$$\begin{aligned}
& \left[a_{101}, a_{102}, sgn(s_{A_4, 101}^{(0)}), sgn(s_{A_4, 101}^{(5.7)}) \right] = [4.0972, 4.0978, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{102}, a_{103}, sgn(s_{A_4, 102}^{(0)}), sgn(s_{A_4, 102}^{(5.7)}) \right] = [4.0978, 4.0984, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{103}, a_{104}, sgn(s_{A_4, 103}^{(0)}), sgn(s_{A_4, 103}^{(5.7)}) \right] = [4.0984, 4.0989, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{104}, a_{105}, sgn(s_{A_4, 104}^{(0)}), sgn(s_{A_4, 104}^{(5.7)}) \right] = [4.0989, 4.0995, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{105}, a_{106}, sgn(s_{A_4, 105}^{(0)}), sgn(s_{A_4, 105}^{(5.7)}) \right] = [4.0995, 4.1001, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{106}, a_{107}, sgn(s_{A_4, 106}^{(0)}), sgn(s_{A_4, 106}^{(5.7)}) \right] = [4.1001, 4.1006, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{107}, a_{108}, sgn(s_{A_4, 107}^{(0)}), sgn(s_{A_4, 107}^{(5.7)}) \right] = [4.1006, 4.1012, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{108}, a_{109}, sgn(s_{A_4, 108}^{(0)}), sgn(s_{A_4, 108}^{(5.7)}) \right] = [4.1012, 4.1018, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{109}, a_{110}, sgn(s_{A_4, 109}^{(0)}), sgn(s_{A_4, 109}^{(5.7)}) \right] = [4.1018, 4.1023, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{110}, a_{111}, sgn(s_{A_4, 110}^{(0)}), sgn(s_{A_4, 110}^{(5.7)}) \right] = [4.1023, 4.1029, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{111}, a_{112}, sgn(s_{A_4, 111}^{(0)}), sgn(s_{A_4, 111}^{(5.7)}) \right] = [4.1029, 4.1035, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{112}, a_{113}, sgn(s_{A_4, 112}^{(0)}), sgn(s_{A_4, 112}^{(5.7)}) \right] = [4.1035, 4.1040, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{113}, a_{114}, sgn(s_{A_4, 113}^{(0)}), sgn(s_{A_4, 113}^{(5.7)}) \right] = [4.1040, 4.1046, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{114}, a_{115}, sgn(s_{A_4, 114}^{(0)}), sgn(s_{A_4, 114}^{(5.7)}) \right] = [4.1046, 4.1052, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{115}, a_{116}, sgn(s_{A_4, 115}^{(0)}), sgn(s_{A_4, 115}^{(5.7)}) \right] = [4.1052, 4.1057, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{116}, a_{117}, sgn(s_{A_4, 116}^{(0)}), sgn(s_{A_4, 116}^{(5.7)}) \right] = [4.1057, 4.1063, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{117}, a_{118}, sgn(s_{A_4, 117}^{(0)}), sgn(s_{A_4, 117}^{(5.7)}) \right] = [4.1063, 4.1069, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{118}, a_{119}, sgn(s_{A_4, 118}^{(0)}), sgn(s_{A_4, 118}^{(5.7)}) \right] = [4.1069, 4.1074, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]] \\
& \left[a_{119}, a_{120}, sgn(s_{A_4, 119}^{(0)}), sgn(s_{A_4, 119}^{(5.7)}) \right] = [4.1074, 4.1080, [1 1 1 -1 1 -1 -1 -1], [1 1 -1 -1 1 1 -1 -1]]
\end{aligned}$$

(1)

