

*Coordinates*

$$Co : (\frac{1}{3}, \frac{2}{3}, \frac{1}{6}), (1, 1, \frac{1}{2}), (\frac{2}{3}, \frac{1}{3}, \frac{5}{6})$$

$$O : (0, 0, 0.239587), (\frac{2}{3}, \frac{1}{3}, 0.09374633), (\frac{2}{3}, \frac{1}{3}, 0.57292033), (\frac{1}{3}, \frac{2}{3}, 0.42707967), (\frac{1}{3}, \frac{2}{3}, 0.90625367), (0, 0, 0.760413)$$

$$Li : (0, 0, 0), (\frac{2}{3}, \frac{1}{3}, \frac{1}{3}), (\frac{1}{3}, \frac{2}{3}, \frac{2}{3})$$

$$\begin{aligned} \text{Reflections : } & (-2, 1, 0), (0, 0, 1), (0, 0, 2), (0, 0, 3), (0, 0, 4), (1, 0, 0), \\ & (1, 0, 1), (1, 0, 2), (1, 0, 3), (2, 1, 0), (1, 1, 1), (1, 1, 2), \\ & (1, 1, 3), (2, 0, 0), (2, 0, 1), (2, 0, 2), (2, 0, 3), (2, 1, 0), \\ & (2, 1, 1), (2, 1, 2), (2, 1, 3), (3, 0, 0), (3, 0, 1), (3, 0, 2) \end{aligned}$$

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$$\begin{aligned} F_{hkl} = & f_{Co}(e^{2\pi i(\frac{h}{3} + \frac{2k}{3} + \frac{l}{6})} + e^{2\pi i(h+k+\frac{l}{2})} + e^{2\pi i(\frac{2h}{3} + \frac{k}{3} + \frac{5l}{6})}) \\ & + f_O(e^{2\pi i(0+0+\frac{0.239587 \cdot l}{1})} + e^{2\pi i(\frac{2h}{3} + \frac{k}{3} + \frac{0.09374633 \cdot l}{1})} + e^{2\pi i(\frac{2h}{3} + \frac{k}{3} + \frac{0.57292033 \cdot l}{1})} + e^{2\pi i(\frac{h}{3} + \frac{2k}{3} + \frac{0.42707967 \cdot l}{1})} \\ & + e^{2\pi i(\frac{h}{3} + \frac{2k}{3} + \frac{0.90625367 \cdot l}{1})} + e^{2\pi i(0+0+\frac{0.760413 \cdot l}{1})}) \\ & + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2h}{3} + \frac{k}{3} + \frac{l}{3})} + e^{2\pi i(\frac{h}{3} + \frac{2k}{3} + \frac{2l}{3})}) \\ = & f_{Co}(e^{2\pi i(\frac{h}{3} + \frac{2k}{3} + \frac{l}{6})} + e^{2\pi i(h+k+\frac{l}{2})} + e^{2\pi i(\frac{2h}{3} + \frac{k}{3} + \frac{5l}{6})}) \\ & + f_O(e^{2\pi i(\frac{0.239587 \cdot l}{1})} + e^{2\pi i(\frac{2h}{3} + \frac{k}{3} + \frac{0.09374633 \cdot l}{1})} + e^{2\pi i(\frac{2h}{3} + \frac{k}{3} + \frac{0.57292033 \cdot l}{1})} + e^{2\pi i(\frac{h}{3} + \frac{2k}{3} + \frac{0.42707967 \cdot l}{1})} \\ & + e^{2\pi i(\frac{h}{3} + \frac{2k}{3} + \frac{0.90625367 \cdot l}{1})} + e^{2\pi i(\frac{0.760413 \cdot l}{1})}) \\ & + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2h}{3} + \frac{k}{3} + \frac{l}{3})} + e^{2\pi i(\frac{h}{3} + \frac{2k}{3} + \frac{2l}{3})}) \end{aligned}$$

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$$\begin{aligned}
F_{-210} &= f_{Co}(e^{2\pi i(\frac{-2}{3} + \frac{2 \cdot 1}{3} + \frac{0}{6})} + e^{2\pi i(-2+1+\frac{0}{2})} + e^{2\pi i(\frac{2 \cdot -2}{3} + \frac{1}{3} + \frac{5 \cdot 0}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587 \cdot 0}{1})} + e^{2\pi i(\frac{2 \cdot -2}{3} + \frac{1}{3} + \frac{0.09374633 \cdot 0}{1})} + e^{2\pi i(\frac{2 \cdot -2}{3} + \frac{1}{3} + \frac{0.57292033 \cdot 0}{1})} + e^{2\pi i(\frac{-2}{3} + \frac{2 \cdot 1}{3} + \frac{0.42707967 \cdot 0}{1})}) \\
&\quad + e^{2\pi i(\frac{-2}{3} + \frac{2 \cdot 1}{3} + \frac{0.90625367 \cdot 0}{1})} + e^{2\pi i(0+0+\frac{0.760413 \cdot 0}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2 \cdot -2}{3} + \frac{1}{3} + \frac{0}{3})} + e^{2\pi i(\frac{-2}{3} + \frac{2 \cdot 1}{3} + \frac{2 \cdot 0}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{-2}{3} + \frac{2 \cdot 1}{3} + \frac{0}{6})} + e^{2\pi i(-2+1+\frac{0}{2})} + e^{2\pi i(\frac{2 \cdot -2}{3} + \frac{1}{3} + \frac{5 \cdot 0}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587 \cdot 0}{1})} + e^{2\pi i(\frac{2 \cdot -2}{3} + \frac{1}{3} + \frac{0.09374633 \cdot 0}{1})} + e^{2\pi i(\frac{2 \cdot -2}{3} + \frac{1}{3} + \frac{0.57292033 \cdot 0}{1})} + e^{2\pi i(\frac{-2}{3} + \frac{2 \cdot 1}{3} + \frac{0.42707967 \cdot 0}{1})}) \\
&\quad + e^{2\pi i(\frac{-2}{3} + \frac{2 \cdot 1}{3} + \frac{0.90625367 \cdot 0}{1})} + e^{2\pi i(\frac{0.760413 \cdot 0}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2 \cdot -2}{3} + \frac{1}{3} + \frac{0}{3})} + e^{2\pi i(\frac{-2}{3} + \frac{2 \cdot 1}{3} + \frac{2 \cdot 0}{3})}) \\
&= f_{Co}(e^{2\pi i(0)} + e^{2\pi i(-1)} + e^{2\pi i(-1)}) \\
&\quad + f_O(e^{2\pi i(0)} + e^{2\pi i(-1)} + e^{2\pi i(-1)} + e^{2\pi i(0)} \\
&\quad + e^{2\pi i(0)} + e^{2\pi i(0)}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(-1)} + e^{2\pi i(0)}) \\
&= f_{Co}(1+1+1) \\
&\quad + f_O(1+1+1+1+1+1) \\
&\quad + f_{Li}(1+1+1) \\
&= 3f_{Co} + 6f_O + 3f_{Li}
\end{aligned}$$

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$$\begin{aligned}
F_{001} &= f_{Co}(e^{2\pi i(\frac{0}{3} + \frac{2 \cdot 0}{3} + \frac{1}{6})} + e^{2\pi i(0+0+\frac{1}{2})} + e^{2\pi i(\frac{2 \cdot 0}{3} + \frac{0}{3} + \frac{5 \cdot 1}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587 \cdot 1}{1})} + e^{2\pi i(\frac{2 \cdot 0}{3} + \frac{0}{3} + \frac{0.09374633 \cdot 1}{1})} + e^{2\pi i(\frac{2 \cdot 0}{3} + \frac{0}{3} + \frac{0.57292033 \cdot 1}{1})} + e^{2\pi i(\frac{0}{3} + \frac{2 \cdot 0}{3} + \frac{0.42707967 \cdot 1}{1})}) \\
&\quad + e^{2\pi i(\frac{0}{3} + \frac{2 \cdot 0}{3} + \frac{0.90625367 \cdot 1}{1})} + e^{2\pi i(0+0+\frac{0.760413 \cdot 1}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2 \cdot 0}{3} + \frac{0}{3} + \frac{1}{3})} + e^{2\pi i(\frac{0}{3} + \frac{2 \cdot 0}{3} + \frac{2 \cdot 1}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{0}{3} + \frac{2 \cdot 0}{3} + \frac{1}{6})} + e^{2\pi i(0+0+\frac{1}{2})} + e^{2\pi i(\frac{2 \cdot 0}{3} + \frac{0}{3} + \frac{5 \cdot 1}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587 \cdot 1}{1})} + e^{2\pi i(\frac{2 \cdot 0}{3} + \frac{0}{3} + \frac{0.09374633 \cdot 1}{1})} + e^{2\pi i(\frac{2 \cdot 0}{3} + \frac{0}{3} + \frac{0.57292033 \cdot 1}{1})} + e^{2\pi i(\frac{0}{3} + \frac{2 \cdot 0}{3} + \frac{0.42707967 \cdot 1}{1})}) \\
&\quad + e^{2\pi i(\frac{0}{3} + \frac{2 \cdot 0}{3} + \frac{0.90625367 \cdot 1}{1})} + e^{2\pi i(\frac{0.760413 \cdot 1}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2 \cdot 0}{3} + \frac{0}{3} + \frac{1}{3})} + e^{2\pi i(\frac{0}{3} + \frac{2 \cdot 0}{3} + \frac{2 \cdot 1}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{1}{6})} + e^{2\pi i(\frac{1}{2})} + e^{2\pi i(\frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587}{1})} + e^{2\pi i(\frac{0.09374633}{1})} + e^{2\pi i(\frac{0.57292033}{1})} + e^{2\pi i(\frac{0.42707967}{1})}) \\
&\quad + e^{2\pi i(\frac{0.90625367}{1})} + e^{2\pi i(\frac{0.760413}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{1}{3})} + e^{2\pi i(\frac{2}{3})}) \\
&= f_{Co}([0.5 + (0.86603)i] + -1 + [0.5 + (-0.86603)i]) \\
&\quad + f_O([0.06538 + (0.99786)i] + [0.83148 + (0.55555)i] \\
&\quad + [-0.89686 + (-0.44231)i] + [-0.89686 + (0.44231)i] \\
&\quad + [0.83148 + (-0.55555)i] + [0.06538 + (-0.99786)i]) \\
&\quad + f_{Li}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
&= 4.743458070777251e - 09f_O
\end{aligned}$$

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$$\begin{aligned}
F_{002} &= f_{Co}(e^{2\pi i(\frac{0}{3} + \frac{2}{3} + \frac{2}{6})} + e^{2\pi i(0+0+\frac{2}{2})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587.2}{1})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0.09374633.2}{1})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0.57292033.2}{1})} + e^{2\pi i(\frac{0}{3} + \frac{2}{3} + \frac{0.42707967.2}{1})} \\
&\quad + e^{2\pi i(\frac{0}{3} + \frac{2}{3} + \frac{0.90625367.2}{1})} + e^{2\pi i(0+0+\frac{0.760413.2}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{2}{3})} + e^{2\pi i(\frac{0}{3} + \frac{2}{3} + \frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{0}{3} + \frac{2}{3} + \frac{2}{6})} + e^{2\pi i(0+0+\frac{2}{2})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587.2}{1})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0.09374633.2}{1})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0.57292033.2}{1})} + e^{2\pi i(\frac{0}{3} + \frac{2}{3} + \frac{0.42707967.2}{1})} \\
&\quad + e^{2\pi i(\frac{0}{3} + \frac{2}{3} + \frac{0.90625367.2}{1})} + e^{2\pi i(\frac{0.760413.2}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{2}{3})} + e^{2\pi i(\frac{0}{3} + \frac{2}{3} + \frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{1}{3})} + e^{2\pi i(1)} + e^{2\pi i(\frac{5}{3})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.479174}{1})} + e^{2\pi i(\frac{0.18749266}{1})} + e^{2\pi i(\frac{1.14584066}{1})} + e^{2\pi i(\frac{0.85415934}{1})} \\
&\quad + e^{2\pi i(\frac{1.81250734}{1})} + e^{2\pi i(\frac{1.520826}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3})} + e^{2\pi i(\frac{4}{3})}) \\
&= f_{Co}([-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i]) \\
&\quad + f_O([-0.99145 + (0.13048)i] + [0.38273 + (0.92386)i] \\
&\quad + [0.60872 + (0.79338)i] + [0.60872 + (-0.79338)i] \\
&\quad + [0.38273 + (-0.92386)i] + [-0.99145 + (-0.13048)i]) \\
&\quad + f_{Li}(1 + [-0.5 + (-0.86603)i] + [-0.5 + (0.86603)i]) \\
&= 1.438634354977708e - 07f_O
\end{aligned}$$

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$$\begin{aligned}
F_{003} &= f_{Co}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{3}{6})} + e^{2\pi i(0+0+\frac{3}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{5\cdot 3}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587\cdot 3}{1})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{0.09374633\cdot 3}{1})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{0.57292033\cdot 3}{1})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{0.42707967\cdot 3}{1})}) \\
&\quad + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{0.90625367\cdot 3}{1})} + e^{2\pi i(0+0+\frac{0.760413\cdot 3}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{3}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{2\cdot 3}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{3}{6})} + e^{2\pi i(0+0+\frac{3}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{5\cdot 3}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587\cdot 3}{1})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{0.09374633\cdot 3}{1})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{0.57292033\cdot 3}{1})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{0.42707967\cdot 3}{1})}) \\
&\quad + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{0.90625367\cdot 3}{1})} + e^{2\pi i(\frac{0.760413\cdot 3}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{3}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{2\cdot 3}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{1}{2})} + e^{2\pi i(\frac{3}{2})} + e^{2\pi i(\frac{5}{2})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.718761}{1})} + e^{2\pi i(\frac{0.28123899}{1})} + e^{2\pi i(\frac{1.71876099}{1})} + e^{2\pi i(\frac{1.28123901}{1})}) \\
&\quad + e^{2\pi i(\frac{2.71876101}{1})} + e^{2\pi i(\frac{2.281239}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(1)} + e^{2\pi i(2)}) \\
&= f_{Co}(-1 + -1 + -1) \\
&\quad + f_O([-0.19502 + (-0.9808)i] + [-0.19502 + (0.9808)i] \\
&\quad + [-0.19502 + (-0.9808)i] + [-0.19502 + (0.9808)i] \\
&\quad + [-0.19502 + (-0.9808)i] + [-0.19502 + (0.9808)i]) \\
&\quad + f_{Li}(1 + 1 + 1) \\
&= -3f_{Co} - 1.170135207227543f_O + 3f_{Li}
\end{aligned}$$

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$$\begin{aligned}
F_{004} &= f_{Co}(e^{2\pi i(\frac{0}{3} + \frac{2 \cdot 0}{3} + \frac{4}{6})} + e^{2\pi i(0+0+\frac{4}{2})} + e^{2\pi i(\frac{2 \cdot 0}{3} + \frac{0}{3} + \frac{5 \cdot 4}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587 \cdot 4}{1})} + e^{2\pi i(\frac{2 \cdot 0}{3} + \frac{0}{3} + \frac{0.09374633 \cdot 4}{1})} + e^{2\pi i(\frac{2 \cdot 0}{3} + \frac{0}{3} + \frac{0.57292033 \cdot 4}{1})} + e^{2\pi i(\frac{0}{3} + \frac{2 \cdot 0}{3} + \frac{0.42707967 \cdot 4}{1})}) \\
&\quad + e^{2\pi i(\frac{0}{3} + \frac{2 \cdot 0}{3} + \frac{0.90625367 \cdot 4}{1})} + e^{2\pi i(0+0+\frac{0.760413 \cdot 4}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2 \cdot 0}{3} + \frac{0}{3} + \frac{4}{3})} + e^{2\pi i(\frac{0}{3} + \frac{2 \cdot 0}{3} + \frac{2 \cdot 4}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{0}{3} + \frac{2 \cdot 0}{3} + \frac{4}{6})} + e^{2\pi i(0+0+\frac{4}{2})} + e^{2\pi i(\frac{2 \cdot 0}{3} + \frac{0}{3} + \frac{5 \cdot 4}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587 \cdot 4}{1})} + e^{2\pi i(\frac{2 \cdot 0}{3} + \frac{0}{3} + \frac{0.09374633 \cdot 4}{1})} + e^{2\pi i(\frac{2 \cdot 0}{3} + \frac{0}{3} + \frac{0.57292033 \cdot 4}{1})} + e^{2\pi i(\frac{0}{3} + \frac{2 \cdot 0}{3} + \frac{0.42707967 \cdot 4}{1})}) \\
&\quad + e^{2\pi i(\frac{0}{3} + \frac{2 \cdot 0}{3} + \frac{0.90625367 \cdot 4}{1})} + e^{2\pi i(\frac{0.760413 \cdot 4}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2 \cdot 0}{3} + \frac{0}{3} + \frac{4}{3})} + e^{2\pi i(\frac{0}{3} + \frac{2 \cdot 0}{3} + \frac{2 \cdot 4}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{2}{3})} + e^{2\pi i(2)} + e^{2\pi i(\frac{10}{3})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.958348}{1})} + e^{2\pi i(\frac{0.37498532}{1})} + e^{2\pi i(\frac{2.29168132}{1})} + e^{2\pi i(\frac{1.70831868}{1})}) \\
&\quad + e^{2\pi i(\frac{3.62501468}{1})} + e^{2\pi i(\frac{3.041652}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{4}{3})} + e^{2\pi i(\frac{8}{3})}) \\
&= f_{Co}([-0.5 + (-0.86603)i] + 1 + [-0.5 + (0.86603)i]) \\
&\quad + f_O([0.96595 + (-0.25873)i] + [-0.70704 + (0.70717)i] \\
&\quad + [-0.25891 + (0.9659)i] + [-0.25891 + (-0.9659)i] \\
&\quad + [-0.70704 + (-0.70717)i] + [0.96595 + (0.25873)i]) \\
&\quad + f_{Li}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
&= 2.803262317829791e - 07f_O
\end{aligned}$$

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$$\begin{aligned}
F_{100} &= f_{Co}(e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0}{6})} + e^{2\pi i(1+0+\frac{0}{2})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587 \cdot 0}{1})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0.09374633 \cdot 0}{1})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0.57292033 \cdot 0}{1})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.42707967 \cdot 0}{1})}) \\
&\quad + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.90625367 \cdot 0}{1})} + e^{2\pi i(0+0+\frac{0.760413 \cdot 0}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0}{3})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0}{6})} + e^{2\pi i(1+0+\frac{0}{2})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587 \cdot 0}{1})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0.09374633 \cdot 0}{1})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0.57292033 \cdot 0}{1})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.42707967 \cdot 0}{1})}) \\
&\quad + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.90625367 \cdot 0}{1})} + e^{2\pi i(\frac{0.760413 \cdot 0}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0}{3})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{1}{3})} + e^{2\pi i(1)} + e^{2\pi i(\frac{2}{3})}) \\
&\quad + f_O(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3})} + e^{2\pi i(\frac{2}{3})} + e^{2\pi i(\frac{1}{3})}) \\
&\quad + e^{2\pi i(\frac{1}{3})} + e^{2\pi i(0)}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3})} + e^{2\pi i(\frac{1}{3})}) \\
&= f_{Co}([-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i]) \\
&\quad + f_O(1 + [-0.5 + (-0.86603)i] + [-0.5 + (-0.86603)i] \\
&\quad + [-0.5 + (0.86603)i] + [-0.5 + (0.86603)i] \\
&\quad + 1) \\
&\quad + f_{Li}(1 + [-0.5 + (-0.86603)i] + [-0.5 + (0.86603)i]) \\
&= 0(ForbiddenReflection)
\end{aligned}$$

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$$\begin{aligned}
F_{101} &= f_{Co}(e^{2\pi i(\frac{1}{3} + \frac{2 \cdot 0}{3} + \frac{1}{6})} + e^{2\pi i(1+0+\frac{1}{2})} + e^{2\pi i(\frac{2 \cdot 1}{3} + \frac{0}{3} + \frac{5 \cdot 1}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587 \cdot 1}{1})} + e^{2\pi i(\frac{2 \cdot 1}{3} + \frac{0}{3} + \frac{0.09374633 \cdot 1}{1})} + e^{2\pi i(\frac{2 \cdot 1}{3} + \frac{0}{3} + \frac{0.57292033 \cdot 1}{1})} + e^{2\pi i(\frac{1}{3} + \frac{2 \cdot 0}{3} + \frac{0.42707967 \cdot 1}{1})}) \\
&\quad + e^{2\pi i(\frac{1}{3} + \frac{2 \cdot 0}{3} + \frac{0.90625367 \cdot 1}{1})} + e^{2\pi i(0+0+\frac{0.760413 \cdot 1}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2 \cdot 1}{3} + \frac{0}{3} + \frac{1}{3})} + e^{2\pi i(\frac{1}{3} + \frac{2 \cdot 0}{3} + \frac{2 \cdot 1}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{1}{3} + \frac{2 \cdot 0}{3} + \frac{1}{6})} + e^{2\pi i(1+0+\frac{1}{2})} + e^{2\pi i(\frac{2 \cdot 1}{3} + \frac{0}{3} + \frac{5 \cdot 1}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587 \cdot 1}{1})} + e^{2\pi i(\frac{2 \cdot 1}{3} + \frac{0}{3} + \frac{0.09374633 \cdot 1}{1})} + e^{2\pi i(\frac{2 \cdot 1}{3} + \frac{0}{3} + \frac{0.57292033 \cdot 1}{1})} + e^{2\pi i(\frac{1}{3} + \frac{2 \cdot 0}{3} + \frac{0.42707967 \cdot 1}{1})}) \\
&\quad + e^{2\pi i(\frac{1}{3} + \frac{2 \cdot 0}{3} + \frac{0.90625367 \cdot 1}{1})} + e^{2\pi i(\frac{0.760413 \cdot 1}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2 \cdot 1}{3} + \frac{0}{3} + \frac{1}{3})} + e^{2\pi i(\frac{1}{3} + \frac{2 \cdot 0}{3} + \frac{2 \cdot 1}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{1}{2})} + e^{2\pi i(\frac{3}{2})} + e^{2\pi i(\frac{3}{2})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587}{1})} + e^{2\pi i(\frac{0.760413}{1})} + e^{2\pi i(\frac{1.239587}{1})} + e^{2\pi i(\frac{0.760413}{1})}) \\
&\quad + e^{2\pi i(\frac{1.239587}{1})} + e^{2\pi i(\frac{0.760413}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(1)} + e^{2\pi i(1)}) \\
&= f_{Co}(-1 + -1 + -1) \\
&\quad + f_O([0.06538 + (0.99786)i] + [0.06538 + (-0.99786)i] \\
&\quad + [0.06538 + (0.99786)i] + [0.06538 + (-0.99786)i] \\
&\quad + [0.06538 + (0.99786)i] + [0.06538 + (-0.99786)i]) \\
&\quad + f_{Li}(1 + 1 + 1) \\
&= -3f_{Co} + 0.39228084116117606f_O + 3f_{Li}
\end{aligned}$$



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$$\begin{aligned}
F_{102} &= f_{Co}(e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{2}{6})} + e^{2\pi i(1+0+\frac{2}{2})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587.2}{1})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0.09374633.2}{1})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0.57292033.2}{1})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.42707967.2}{1})}) \\
&\quad + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.90625367.2}{1})} + e^{2\pi i(0+0+\frac{0.760413.2}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{2}{3})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{2}{6})} + e^{2\pi i(1+0+\frac{2}{2})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587.2}{1})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0.09374633.2}{1})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0.57292033.2}{1})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.42707967.2}{1})}) \\
&\quad + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.90625367.2}{1})} + e^{2\pi i(\frac{0.760413.2}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{2}{3})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{2}{3})} + e^{2\pi i(2)} + e^{2\pi i(\frac{7}{3})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.479174}{1})} + e^{2\pi i(\frac{0.85415933}{1})} + e^{2\pi i(\frac{1.81250733}{1})} + e^{2\pi i(\frac{1.18749267}{1})}) \\
&\quad + e^{2\pi i(\frac{2.14584067}{1})} + e^{2\pi i(\frac{1.520826}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{4}{3})} + e^{2\pi i(\frac{5}{3})}) \\
&= f_{Co}([-0.5 + (-0.86603)i] + 1 + [-0.5 + (0.86603)i]) \\
&\quad + f_O([-0.99145 + (0.13048)i] + [0.60872 + (-0.79338)i] \\
&\quad + [0.38273 + (-0.92386)i] + [0.38273 + (0.92386)i] \\
&\quad + [0.60872 + (0.79338)i] + [-0.99145 + (-0.13048)i]) \\
&\quad + f_{Li}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
&= -1.4386343782923916e - 07f_O
\end{aligned}$$

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$$\begin{aligned}
F_{103} &= f_{Co}(e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{3}{6})} + e^{2\pi i(1+0+\frac{3}{2})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587.3}{1})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0.09374633.3}{1})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0.57292033.3}{1})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.42707967.3}{1})}) \\
&\quad + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.90625367.3}{1})} + e^{2\pi i(0+0+\frac{0.760413.3}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{3}{3})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{3}{6})} + e^{2\pi i(1+0+\frac{3}{2})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587.3}{1})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0.09374633.3}{1})} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{0.57292033.3}{1})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.42707967.3}{1})}) \\
&\quad + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.90625367.3}{1})} + e^{2\pi i(\frac{0.760413.3}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3} + \frac{0}{3} + \frac{3}{3})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{5}{6})} + e^{2\pi i(\frac{5}{2})} + e^{2\pi i(\frac{19}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.718761}{1})} + e^{2\pi i(\frac{0.94790566}{1})} + e^{2\pi i(\frac{2.38542766}{1})} + e^{2\pi i(\frac{1.61457234}{1})}) \\
&\quad + e^{2\pi i(\frac{3.05209434}{1})} + e^{2\pi i(\frac{2.281239}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{5}{3})} + e^{2\pi i(\frac{7}{3})}) \\
&= f_{Co}([0.5 + (-0.86603)i] + -1 + [0.5 + (0.86603)i]) \\
&\quad + f_O([-0.19502 + (-0.9808)i] + [0.94691 + (-0.3215)i] \\
&\quad + [-0.75189 + (0.65929)i] + [-0.75189 + (-0.65929)i] \\
&\quad + [0.94691 + (0.3215)i] + [-0.19502 + (0.9808)i]) \\
&\quad + f_{Li}(1 + [-0.5 + (-0.86603)i] + [-0.5 + (0.86603)i]) \\
&= 4.2447808795698094e - 08f_O
\end{aligned}$$

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$$\begin{aligned}
F_{210} &= f_{Co}(e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0}{6})} + e^{2\pi i(2+1+\frac{0}{2})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587\cdot 0}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.09374633\cdot 0}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.57292033\cdot 0}{1})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.42707967\cdot 0}{1})}) \\
&\quad + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.90625367\cdot 0}{1})} + e^{2\pi i(0+0+\frac{0.760413\cdot 0}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0}{6})} + e^{2\pi i(2+1+\frac{0}{2})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587\cdot 0}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.09374633\cdot 0}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.57292033\cdot 0}{1})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.42707967\cdot 0}{1})}) \\
&\quad + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.90625367\cdot 0}{1})} + e^{2\pi i(\frac{0.760413\cdot 0}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{4}{3})} + e^{2\pi i(3)} + e^{2\pi i(\frac{5}{3})}) \\
&\quad + f_O(e^{2\pi i(0)} + e^{2\pi i(\frac{5}{3})} + e^{2\pi i(\frac{5}{3})} + e^{2\pi i(\frac{4}{3})}) \\
&\quad + e^{2\pi i(\frac{4}{3})} + e^{2\pi i(0)}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{5}{3})} + e^{2\pi i(\frac{4}{3})}) \\
&= f_{Co}([-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i]) \\
&\quad + f_O(1 + [-0.5 + (-0.86603)i] + [-0.5 + (-0.86603)i] \\
&\quad + [-0.5 + (0.86603)i] + [-0.5 + (0.86603)i] \\
&\quad + 1) \\
&\quad + f_{Li}(1 + [-0.5 + (-0.86603)i] + [-0.5 + (0.86603)i]) \\
&= 0(ForbiddenReflection)
\end{aligned}$$

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$$\begin{aligned}
F_{111} &= f_{Co}(e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{1}{6})} + e^{2\pi i(1+1+\frac{1}{2})} + e^{2\pi i(\frac{2}{3} + \frac{1}{3} + \frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587 \cdot 1}{1})} + e^{2\pi i(\frac{2}{3} + \frac{1}{3} + \frac{0.09374633 \cdot 1}{1})} + e^{2\pi i(\frac{2}{3} + \frac{1}{3} + \frac{0.57292033 \cdot 1}{1})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.42707967 \cdot 1}{1})}) \\
&\quad + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.90625367 \cdot 1}{1})} + e^{2\pi i(0+0+\frac{0.760413 \cdot 1}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2}{3} + \frac{1}{3} + \frac{1}{3})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{1}{6})} + e^{2\pi i(1+1+\frac{1}{2})} + e^{2\pi i(\frac{2}{3} + \frac{1}{3} + \frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587 \cdot 1}{1})} + e^{2\pi i(\frac{2}{3} + \frac{1}{3} + \frac{0.09374633 \cdot 1}{1})} + e^{2\pi i(\frac{2}{3} + \frac{1}{3} + \frac{0.57292033 \cdot 1}{1})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.42707967 \cdot 1}{1})}) \\
&\quad + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.90625367 \cdot 1}{1})} + e^{2\pi i(\frac{0.760413 \cdot 1}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3} + \frac{1}{3} + \frac{1}{3})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{7}{6})} + e^{2\pi i(\frac{5}{2})} + e^{2\pi i(\frac{11}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587}{1})} + e^{2\pi i(\frac{1.09374633}{1})} + e^{2\pi i(\frac{1.57292033}{1})} + e^{2\pi i(\frac{1.42707967}{1})}) \\
&\quad + e^{2\pi i(\frac{1.90625367}{1})} + e^{2\pi i(\frac{0.760413}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{4}{3})} + e^{2\pi i(\frac{5}{3})}) \\
&= f_{Co}([0.5 + (0.86603)i] + -1 + [0.5 + (-0.86603)i]) \\
&\quad + f_O([0.06538 + (0.99786)i] + [0.83148 + (0.55555)i] \\
&\quad + [-0.89686 + (-0.44231)i] + [-0.89686 + (0.44231)i] \\
&\quad + [0.83148 + (-0.55555)i] + [0.06538 + (-0.99786)i]) \\
&\quad + f_{Li}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
&= 4.743456849531924e - 09f_O
\end{aligned}$$

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$$\begin{aligned}
F_{112} &= f_{Co}(e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{2}{6})} + e^{2\pi i(1 + 1 + \frac{2}{2})} + e^{2\pi i(\frac{2}{3} + \frac{1}{3} + \frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(0 + 0 + \frac{0.239587.2}{1})} + e^{2\pi i(\frac{2}{3} + \frac{1}{3} + \frac{0.09374633.2}{1})} + e^{2\pi i(\frac{2}{3} + \frac{1}{3} + \frac{0.57292033.2}{1})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.42707967.2}{1})} \\
&\quad + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.90625367.2}{1})} + e^{2\pi i(0 + 0 + \frac{0.760413.2}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0 + 0 + 0)} + e^{2\pi i(\frac{2}{3} + \frac{1}{3} + \frac{2}{3})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{2}{6})} + e^{2\pi i(1 + 1 + \frac{2}{2})} + e^{2\pi i(\frac{2}{3} + \frac{1}{3} + \frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587.2}{1})} + e^{2\pi i(\frac{2}{3} + \frac{1}{3} + \frac{0.09374633.2}{1})} + e^{2\pi i(\frac{2}{3} + \frac{1}{3} + \frac{0.57292033.2}{1})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.42707967.2}{1})} \\
&\quad + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{0.90625367.2}{1})} + e^{2\pi i(\frac{0.760413.2}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3} + \frac{1}{3} + \frac{2}{3})} + e^{2\pi i(\frac{1}{3} + \frac{2}{3} + \frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{4}{3})} + e^{2\pi i(3)} + e^{2\pi i(\frac{8}{3})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.479174}{1})} + e^{2\pi i(\frac{1.18749266}{1})} + e^{2\pi i(\frac{2.14584066}{1})} + e^{2\pi i(\frac{1.85415934}{1})} \\
&\quad + e^{2\pi i(\frac{2.81250734}{1})} + e^{2\pi i(\frac{1.520826}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{5}{3})} + e^{2\pi i(\frac{7}{3})}) \\
&= f_{Co}([-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i]) \\
&\quad + f_O([-0.99145 + (0.13048)i] + [0.38273 + (0.92386)i] \\
&\quad + [0.60872 + (0.79338)i] + [0.60872 + (-0.79338)i] \\
&\quad + [0.38273 + (-0.92386)i] + [-0.99145 + (-0.13048)i]) \\
&\quad + f_{Li}(1 + [-0.5 + (-0.86603)i] + [-0.5 + (0.86603)i]) \\
&= 1.4386343150096792e - 07f_O
\end{aligned}$$

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$$\begin{aligned}
F_{113} &= f_{Co}(e^{2\pi i(\frac{1}{3}+\frac{2}{3}+\frac{3}{6})} + e^{2\pi i(1+1+\frac{3}{2})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587.3}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.09374633.3}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.57292033.3}{1})} + e^{2\pi i(\frac{1}{3}+\frac{2}{3}+\frac{0.42707967.3}{1})} \\
&\quad + e^{2\pi i(\frac{1}{3}+\frac{2}{3}+\frac{0.90625367.3}{1})} + e^{2\pi i(0+0+\frac{0.760413.3}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{3}{3})} + e^{2\pi i(\frac{1}{3}+\frac{2}{3}+\frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{1}{3}+\frac{2}{3}+\frac{3}{6})} + e^{2\pi i(1+1+\frac{3}{2})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587.3}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.09374633.3}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.57292033.3}{1})} + e^{2\pi i(\frac{1}{3}+\frac{2}{3}+\frac{0.42707967.3}{1})} \\
&\quad + e^{2\pi i(\frac{1}{3}+\frac{2}{3}+\frac{0.90625367.3}{1})} + e^{2\pi i(\frac{0.760413.3}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{3}{3})} + e^{2\pi i(\frac{1}{3}+\frac{2}{3}+\frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{3}{2})} + e^{2\pi i(\frac{7}{2})} + e^{2\pi i(\frac{7}{2})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.718761}{1})} + e^{2\pi i(\frac{1.28123899}{1})} + e^{2\pi i(\frac{2.71876099}{1})} + e^{2\pi i(\frac{2.28123901}{1})} \\
&\quad + e^{2\pi i(\frac{3.71876101}{1})} + e^{2\pi i(\frac{2.281239}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(2)} + e^{2\pi i(3)}) \\
&= f_{Co}(-1 + -1 + -1) \\
&\quad + f_O([-0.19502 + (-0.9808)i] + [-0.19502 + (0.9808)i] \\
&\quad + [-0.19502 + (-0.9808)i] + [-0.19502 + (0.9808)i] \\
&\quad + [-0.19502 + (-0.9808)i] + [-0.19502 + (0.9808)i]) \\
&\quad + f_{Li}(1 + 1 + 1) \\
&= -3f_{Co} - 1.1701352072275424f_O + 3f_{Li}
\end{aligned}$$

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$$\begin{aligned}
F_{200} &= f_{Co}(e^{2\pi i(\frac{2}{3}+\frac{2.0}{3}+\frac{0}{6})} + e^{2\pi i(2+0+\frac{0}{2})} + e^{2\pi i(\frac{2.2}{3}+\frac{0}{3}+\frac{5.0}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587.0}{1})} + e^{2\pi i(\frac{2.2}{3}+\frac{0}{3}+\frac{0.09374633.0}{1})} + e^{2\pi i(\frac{2.2}{3}+\frac{0}{3}+\frac{0.57292033.0}{1})} + e^{2\pi i(\frac{2}{3}+\frac{2.0}{3}+\frac{0.42707967.0}{1})}) \\
&\quad + e^{2\pi i(\frac{2}{3}+\frac{2.0}{3}+\frac{0.90625367.0}{1})} + e^{2\pi i(0+0+\frac{0.760413.0}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2.2}{3}+\frac{0}{3}+\frac{0}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2.0}{3}+\frac{2.0}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{2}{3}+\frac{2.0}{3}+\frac{0}{6})} + e^{2\pi i(2+0+\frac{0}{2})} + e^{2\pi i(\frac{2.2}{3}+\frac{0}{3}+\frac{5.0}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587.0}{1})} + e^{2\pi i(\frac{2.2}{3}+\frac{0}{3}+\frac{0.09374633.0}{1})} + e^{2\pi i(\frac{2.2}{3}+\frac{0}{3}+\frac{0.57292033.0}{1})} + e^{2\pi i(\frac{2}{3}+\frac{2.0}{3}+\frac{0.42707967.0}{1})}) \\
&\quad + e^{2\pi i(\frac{2}{3}+\frac{2.0}{3}+\frac{0.90625367.0}{1})} + e^{2\pi i(\frac{0.760413.0}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2.2}{3}+\frac{0}{3}+\frac{0}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2.0}{3}+\frac{2.0}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{2}{3})} + e^{2\pi i(2)} + e^{2\pi i(\frac{4}{3})}) \\
&\quad + f_O(e^{2\pi i(0)} + e^{2\pi i(\frac{4}{3})} + e^{2\pi i(\frac{4}{3})} + e^{2\pi i(\frac{2}{3})}) \\
&\quad + e^{2\pi i(\frac{2}{3})} + e^{2\pi i(0)}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{4}{3})} + e^{2\pi i(\frac{2}{3})}) \\
&= f_{Co}([-0.5 + (-0.86603)i] + 1 + [-0.5 + (0.86603)i]) \\
&\quad + f_O(1 + [-0.5 + (0.86603)i] + [-0.5 + (0.86603)i] \\
&\quad + [-0.5 + (-0.86603)i] + [-0.5 + (-0.86603)i] \\
&\quad + 1) \\
&\quad + f_{Li}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
&= 0(ForbiddenReflection)
\end{aligned}$$

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$$\begin{aligned}
F_{201} &= f_{Co}(e^{2\pi i(\frac{2}{3} + \frac{2.0}{3} + \frac{1}{6})} + e^{2\pi i(2+0+\frac{1}{2})} + e^{2\pi i(\frac{2.2}{3} + \frac{0}{3} + \frac{5.1}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587.1}{1})} + e^{2\pi i(\frac{2.2}{3} + \frac{0}{3} + \frac{0.09374633.1}{1})} + e^{2\pi i(\frac{2.2}{3} + \frac{0}{3} + \frac{0.57292033.1}{1})} + e^{2\pi i(\frac{2}{3} + \frac{2.0}{3} + \frac{0.42707967.1}{1})}) \\
&\quad + e^{2\pi i(\frac{2}{3} + \frac{2.0}{3} + \frac{0.90625367.1}{1})} + e^{2\pi i(0+0+\frac{0.760413.1}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2.2}{3} + \frac{0}{3} + \frac{1}{3})} + e^{2\pi i(\frac{2}{3} + \frac{2.0}{3} + \frac{2.1}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{2}{3} + \frac{2.0}{3} + \frac{1}{6})} + e^{2\pi i(2+0+\frac{1}{2})} + e^{2\pi i(\frac{2.2}{3} + \frac{0}{3} + \frac{5.1}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587.1}{1})} + e^{2\pi i(\frac{2.2}{3} + \frac{0}{3} + \frac{0.09374633.1}{1})} + e^{2\pi i(\frac{2.2}{3} + \frac{0}{3} + \frac{0.57292033.1}{1})} + e^{2\pi i(\frac{2}{3} + \frac{2.0}{3} + \frac{0.42707967.1}{1})}) \\
&\quad + e^{2\pi i(\frac{2}{3} + \frac{2.0}{3} + \frac{0.90625367.1}{1})} + e^{2\pi i(\frac{0.760413.1}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2.2}{3} + \frac{0}{3} + \frac{1}{3})} + e^{2\pi i(\frac{2}{3} + \frac{2.0}{3} + \frac{2.1}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{5}{6})} + e^{2\pi i(\frac{5}{2})} + e^{2\pi i(\frac{13}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587}{1})} + e^{2\pi i(\frac{1.42707966}{1})} + e^{2\pi i(\frac{1.90625366}{1})} + e^{2\pi i(\frac{1.09374634}{1})}) \\
&\quad + e^{2\pi i(\frac{1.57292034}{1})} + e^{2\pi i(\frac{0.760413}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{5}{3})} + e^{2\pi i(\frac{4}{3})}) \\
&= f_{Co}([0.5 + (-0.86603)i] + -1 + [0.5 + (0.86603)i]) \\
&\quad + f_O([0.06538 + (0.99786)i] + [-0.89686 + (0.44231)i] \\
&\quad + [0.83148 + (-0.55555)i] + [0.83148 + (0.55555)i] \\
&\quad + [-0.89686 + (-0.44231)i] + [0.06538 + (-0.99786)i]) \\
&\quad + f_{Li}(1 + [-0.5 + (-0.86603)i] + [-0.5 + (0.86603)i]) \\
&= -4.743459625089486e - 09f_O
\end{aligned}$$



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$$\begin{aligned}
F_{202} &= f_{Co}(e^{2\pi i(\frac{2}{3}+\frac{2.0}{3}+\frac{2}{6})} + e^{2\pi i(2+0+\frac{2}{2})} + e^{2\pi i(\frac{2.2}{3}+\frac{0}{3}+\frac{5.2}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587.2}{1})} + e^{2\pi i(\frac{2.2}{3}+\frac{0}{3}+\frac{0.09374633.2}{1})} + e^{2\pi i(\frac{2.2}{3}+\frac{0}{3}+\frac{0.57292033.2}{1})} + e^{2\pi i(\frac{2}{3}+\frac{2.0}{3}+\frac{0.42707967.2}{1})}) \\
&\quad + e^{2\pi i(\frac{2}{3}+\frac{2.0}{3}+\frac{0.90625367.2}{1})} + e^{2\pi i(0+0+\frac{0.760413.2}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2.2}{3}+\frac{0}{3}+\frac{2}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2.0}{3}+\frac{2.2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{2}{3}+\frac{2.0}{3}+\frac{2}{6})} + e^{2\pi i(2+0+\frac{2}{2})} + e^{2\pi i(\frac{2.2}{3}+\frac{0}{3}+\frac{5.2}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587.2}{1})} + e^{2\pi i(\frac{2.2}{3}+\frac{0}{3}+\frac{0.09374633.2}{1})} + e^{2\pi i(\frac{2.2}{3}+\frac{0}{3}+\frac{0.57292033.2}{1})} + e^{2\pi i(\frac{2}{3}+\frac{2.0}{3}+\frac{0.42707967.2}{1})}) \\
&\quad + e^{2\pi i(\frac{2}{3}+\frac{2.0}{3}+\frac{0.90625367.2}{1})} + e^{2\pi i(\frac{0.760413.2}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2.2}{3}+\frac{0}{3}+\frac{2}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2.0}{3}+\frac{2.2}{3})}) \\
&= f_{Co}(e^{2\pi i(1)} + e^{2\pi i(3)} + e^{2\pi i(3)}) \\
&\quad + f_O(e^{2\pi i(\frac{0.479174}{1})} + e^{2\pi i(\frac{1.52082599}{1})} + e^{2\pi i(\frac{2.47917399}{1})} + e^{2\pi i(\frac{1.52082601}{1})}) \\
&\quad + e^{2\pi i(\frac{2.47917401}{1})} + e^{2\pi i(\frac{1.520826}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(2)} + e^{2\pi i(2)}) \\
&= f_{Co}(1+1+1) \\
&\quad + f_O([-0.99145 + (0.13048)i] + [-0.99145 + (-0.13048)i] \\
&\quad \quad + [-0.99145 + (0.13048)i] + [-0.99145 + (-0.13048)i] \\
&\quad \quad + [-0.99145 + (0.13048)i] + [-0.99145 + (-0.13048)i]) \\
&\quad + f_{Li}(1+1+1) \\
&= 3f_{Co} - 5.948705247219291f_O + 3f_{Li}
\end{aligned}$$

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$$\begin{aligned}
F_{203} &= f_{Co}(e^{2\pi i(\frac{2}{3} + \frac{2.0}{3} + \frac{3}{6})} + e^{2\pi i(2+0+\frac{3}{2})} + e^{2\pi i(\frac{2.2}{3} + \frac{0}{3} + \frac{5.3}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587.3}{1})} + e^{2\pi i(\frac{2.2}{3} + \frac{0}{3} + \frac{0.09374633.3}{1})} + e^{2\pi i(\frac{2.2}{3} + \frac{0}{3} + \frac{0.57292033.3}{1})} + e^{2\pi i(\frac{2}{3} + \frac{2.0}{3} + \frac{0.42707967.3}{1})}) \\
&\quad + e^{2\pi i(\frac{2}{3} + \frac{2.0}{3} + \frac{0.90625367.3}{1})} + e^{2\pi i(0+0+\frac{0.760413.3}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2.2}{3} + \frac{0}{3} + \frac{3}{3})} + e^{2\pi i(\frac{2}{3} + \frac{2.0}{3} + \frac{2.3}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{2}{3} + \frac{2.0}{3} + \frac{3}{6})} + e^{2\pi i(2+0+\frac{3}{2})} + e^{2\pi i(\frac{2.2}{3} + \frac{0}{3} + \frac{5.3}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587.3}{1})} + e^{2\pi i(\frac{2.2}{3} + \frac{0}{3} + \frac{0.09374633.3}{1})} + e^{2\pi i(\frac{2.2}{3} + \frac{0}{3} + \frac{0.57292033.3}{1})} + e^{2\pi i(\frac{2}{3} + \frac{2.0}{3} + \frac{0.42707967.3}{1})}) \\
&\quad + e^{2\pi i(\frac{2}{3} + \frac{2.0}{3} + \frac{0.90625367.3}{1})} + e^{2\pi i(\frac{0.760413.3}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2.2}{3} + \frac{0}{3} + \frac{3}{3})} + e^{2\pi i(\frac{2}{3} + \frac{2.0}{3} + \frac{2.3}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{7}{6})} + e^{2\pi i(\frac{7}{2})} + e^{2\pi i(\frac{23}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.718761}{1})} + e^{2\pi i(\frac{1.61457232}{1})} + e^{2\pi i(\frac{3.05209432}{1})} + e^{2\pi i(\frac{1.94790568}{1})}) \\
&\quad + e^{2\pi i(\frac{3.38542768}{1})} + e^{2\pi i(\frac{2.281239}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{7}{3})} + e^{2\pi i(\frac{8}{3})}) \\
&= f_{Co}([0.5 + (0.86603)i] + -1 + [0.5 + (-0.86603)i]) \\
&\quad + f_O([-0.19502 + (-0.9808)i] + [-0.75189 + (-0.65929)i] \\
&\quad + [0.94691 + (0.3215)i] + [0.94691 + (-0.3215)i] \\
&\quad + [-0.75189 + (0.65929)i] + [-0.19502 + (0.9808)i]) \\
&\quad + f_{Li}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
&= -4.244781040552148e - 08f_O
\end{aligned}$$

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$$\begin{aligned}
F_{210} &= f_{Co}(e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0}{6})} + e^{2\pi i(2+1+\frac{0}{2})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587 \cdot 0}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.09374633 \cdot 0}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.57292033 \cdot 0}{1})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.42707967 \cdot 0}{1})}) \\
&\quad + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.90625367 \cdot 0}{1})} + e^{2\pi i(0+0+\frac{0.760413 \cdot 0}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0}{6})} + e^{2\pi i(2+1+\frac{0}{2})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587 \cdot 0}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.09374633 \cdot 0}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.57292033 \cdot 0}{1})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.42707967 \cdot 0}{1})}) \\
&\quad + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.90625367 \cdot 0}{1})} + e^{2\pi i(\frac{0.760413 \cdot 0}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{4}{3})} + e^{2\pi i(3)} + e^{2\pi i(\frac{5}{3})}) \\
&\quad + f_O(e^{2\pi i(0)} + e^{2\pi i(\frac{5}{3})} + e^{2\pi i(\frac{5}{3})} + e^{2\pi i(\frac{4}{3})}) \\
&\quad + e^{2\pi i(\frac{4}{3})} + e^{2\pi i(0)}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{5}{3})} + e^{2\pi i(\frac{4}{3})}) \\
&= f_{Co}([-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i]) \\
&\quad + f_O(1 + [-0.5 + (-0.86603)i] + [-0.5 + (-0.86603)i] \\
&\quad + [-0.5 + (0.86603)i] + [-0.5 + (0.86603)i] \\
&\quad + 1) \\
&\quad + f_{Li}(1 + [-0.5 + (-0.86603)i] + [-0.5 + (0.86603)i]) \\
&= 0(ForbiddenReflection)
\end{aligned}$$

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$$\begin{aligned}
F_{211} &= f_{Co}(e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{1}{6})} + e^{2\pi i(2+1+\frac{1}{2})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587 \cdot 1}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.09374633 \cdot 1}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.57292033 \cdot 1}{1})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.42707967 \cdot 1}{1})}) \\
&\quad + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.90625367 \cdot 1}{1})} + e^{2\pi i(0+0+\frac{0.760413 \cdot 1}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{1}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{1}{6})} + e^{2\pi i(2+1+\frac{1}{2})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587 \cdot 1}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.09374633 \cdot 1}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.57292033 \cdot 1}{1})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.42707967 \cdot 1}{1})}) \\
&\quad + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.90625367 \cdot 1}{1})} + e^{2\pi i(\frac{0.760413 \cdot 1}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{1}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{3}{2})} + e^{2\pi i(\frac{7}{2})} + e^{2\pi i(\frac{5}{2})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587}{1})} + e^{2\pi i(\frac{1.760413}{1})} + e^{2\pi i(\frac{2.239587}{1})} + e^{2\pi i(\frac{1.760413}{1})}) \\
&\quad + e^{2\pi i(\frac{2.239587}{1})} + e^{2\pi i(\frac{0.760413}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{1})} + e^{2\pi i(2)}) \\
&= f_{Co}(-1 + -1 + -1) \\
&\quad + f_O([0.06538 + (0.99786)i] + [0.06538 + (-0.99786)i] \\
&\quad + [0.06538 + (0.99786)i] + [0.06538 + (-0.99786)i] \\
&\quad + [0.06538 + (0.99786)i] + [0.06538 + (-0.99786)i]) \\
&\quad + f_{Li}(1 + 1 + 1) \\
&= -3f_{Co} + 0.3922808411611796f_O + 3f_{Li}
\end{aligned}$$

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$$\begin{aligned}
F_{212} &= f_{Co}(e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{2}{6})} + e^{2\pi i(2+1+\frac{2}{2})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587.2}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.09374633.2}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.57292033.2}{1})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.42707967.2}{1})} \\
&\quad + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.90625367.2}{1})} + e^{2\pi i(0+0+\frac{0.760413.2}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{2}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{2}{6})} + e^{2\pi i(2+1+\frac{2}{2})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587.2}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.09374633.2}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.57292033.2}{1})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.42707967.2}{1})} \\
&\quad + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.90625367.2}{1})} + e^{2\pi i(\frac{0.760413.2}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{2}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{5}{3})} + e^{2\pi i(4)} + e^{2\pi i(\frac{10}{3})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.479174}{1})} + e^{2\pi i(\frac{1.85415933}{1})} + e^{2\pi i(\frac{2.81250733}{1})} + e^{2\pi i(\frac{2.18749267}{1})} \\
&\quad + e^{2\pi i(\frac{3.14584067}{1})} + e^{2\pi i(\frac{1.520826}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{7}{3})} + e^{2\pi i(\frac{8}{3})}) \\
&= f_{Co}([-0.5 + (-0.86603)i] + 1 + [-0.5 + (0.86603)i]) \\
&\quad + f_O([-0.99145 + (0.13048)i] + [0.60872 + (-0.79338)i] \\
&\quad + [0.38273 + (-0.92386)i] + [0.38273 + (0.92386)i] \\
&\quad + [0.60872 + (0.79338)i] + [-0.99145 + (-0.13048)i]) \\
&\quad + f_{Li}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
&= -1.438634393835514e - 07f_O
\end{aligned}$$

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$$\begin{aligned}
F_{213} &= f_{Co}(e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{3}{6})} + e^{2\pi i(2+1+\frac{3}{2})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587.3}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.09374633.3}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.57292033.3}{1})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.42707967.3}{1})} \\
&\quad + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.90625367.3}{1})} + e^{2\pi i(0+0+\frac{0.760413.3}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{3}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{3}{6})} + e^{2\pi i(2+1+\frac{3}{2})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{5}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587.3}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.09374633.3}{1})} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{0.57292033.3}{1})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.42707967.3}{1})} \\
&\quad + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0.90625367.3}{1})} + e^{2\pi i(\frac{0.760413.3}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3}+\frac{1}{3}+\frac{3}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{11}{6})} + e^{2\pi i(\frac{9}{2})} + e^{2\pi i(\frac{25}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.718761}{1})} + e^{2\pi i(\frac{1.94790566}{1})} + e^{2\pi i(\frac{3.38542766}{1})} + e^{2\pi i(\frac{2.61457234}{1})} \\
&\quad + e^{2\pi i(\frac{4.05209434}{1})} + e^{2\pi i(\frac{2.281239}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{8}{3})} + e^{2\pi i(\frac{10}{3})}) \\
&= f_{Co}([0.5 + (-0.86603)i] + -1 + [0.5 + (0.86603)i]) \\
&\quad + f_O([-0.19502 + (-0.9808)i] + [0.94691 + (-0.3215)i] \\
&\quad + [-0.75189 + (0.65929)i] + [-0.75189 + (-0.65929)i] \\
&\quad + [0.94691 + (0.3215)i] + [-0.19502 + (0.9808)i]) \\
&\quad + f_{Li}(1 + [-0.5 + (-0.86603)i] + [-0.5 + (0.86603)i]) \\
&= 4.2447806575252045e - 08f_O
\end{aligned}$$

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$$\begin{aligned}
F_{300} &= f_{Co}(e^{2\pi i(\frac{3}{3}+\frac{2.0}{3}+\frac{0}{6})} + e^{2\pi i(3+0+\frac{0}{2})} + e^{2\pi i(\frac{2.3}{3}+\frac{0}{3}+\frac{5.0}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587.0}{1})} + e^{2\pi i(\frac{2.3}{3}+\frac{0}{3}+\frac{0.09374633.0}{1})} + e^{2\pi i(\frac{2.3}{3}+\frac{0}{3}+\frac{0.57292033.0}{1})} + e^{2\pi i(\frac{3}{3}+\frac{2.0}{3}+\frac{0.42707967.0}{1})} \\
&\quad + e^{2\pi i(\frac{3}{3}+\frac{2.0}{3}+\frac{0.90625367.0}{1})} + e^{2\pi i(0+0+\frac{0.760413.0}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2.3}{3}+\frac{0}{3}+\frac{0}{3})} + e^{2\pi i(\frac{3}{3}+\frac{2.0}{3}+\frac{2.0}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{3}{3}+\frac{2.0}{3}+\frac{0}{6})} + e^{2\pi i(3+0+\frac{0}{2})} + e^{2\pi i(\frac{2.3}{3}+\frac{0}{3}+\frac{5.0}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587.0}{1})} + e^{2\pi i(\frac{2.3}{3}+\frac{0}{3}+\frac{0.09374633.0}{1})} + e^{2\pi i(\frac{2.3}{3}+\frac{0}{3}+\frac{0.57292033.0}{1})} + e^{2\pi i(\frac{3}{3}+\frac{2.0}{3}+\frac{0.42707967.0}{1})} \\
&\quad + e^{2\pi i(\frac{3}{3}+\frac{2.0}{3}+\frac{0.90625367.0}{1})} + e^{2\pi i(\frac{0.760413.0}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2.3}{3}+\frac{0}{3}+\frac{0}{3})} + e^{2\pi i(\frac{3}{3}+\frac{2.0}{3}+\frac{2.0}{3})}) \\
&= f_{Co}(e^{2\pi i(1)} + e^{2\pi i(3)} + e^{2\pi i(2)}) \\
&\quad + f_O(e^{2\pi i(0)} + e^{2\pi i(2)} + e^{2\pi i(2)} + e^{2\pi i(1)} \\
&\quad + e^{2\pi i(1)} + e^{2\pi i(0)}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(2)} + e^{2\pi i(1)}) \\
&= f_{Co}(1+1+1) \\
&\quad + f_O(1+1+1+1+1+1) \\
&\quad + f_{Li}(1+1+1) \\
&= 3f_{Co} + 6f_O + 3f_{Li}
\end{aligned}$$

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$$\begin{aligned}
F_{301} &= f_{Co}(e^{2\pi i(\frac{3}{3} + \frac{2.0}{3} + \frac{1}{6})} + e^{2\pi i(3+0+\frac{1}{2})} + e^{2\pi i(\frac{2.3}{3} + \frac{0}{3} + \frac{5.1}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587.1}{1})} + e^{2\pi i(\frac{2.3}{3} + \frac{0}{3} + \frac{0.09374633.1}{1})} + e^{2\pi i(\frac{2.3}{3} + \frac{0}{3} + \frac{0.57292033.1}{1})} + e^{2\pi i(\frac{3}{3} + \frac{2.0}{3} + \frac{0.42707967.1}{1})}) \\
&\quad + e^{2\pi i(\frac{3}{3} + \frac{2.0}{3} + \frac{0.90625367.1}{1})} + e^{2\pi i(0+0+\frac{0.760413.1}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2.3}{3} + \frac{0}{3} + \frac{1}{3})} + e^{2\pi i(\frac{3}{3} + \frac{2.0}{3} + \frac{2.1}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{3}{3} + \frac{2.0}{3} + \frac{1}{6})} + e^{2\pi i(3+0+\frac{1}{2})} + e^{2\pi i(\frac{2.3}{3} + \frac{0}{3} + \frac{5.1}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587.1}{1})} + e^{2\pi i(\frac{2.3}{3} + \frac{0}{3} + \frac{0.09374633.1}{1})} + e^{2\pi i(\frac{2.3}{3} + \frac{0}{3} + \frac{0.57292033.1}{1})} + e^{2\pi i(\frac{3}{3} + \frac{2.0}{3} + \frac{0.42707967.1}{1})}) \\
&\quad + e^{2\pi i(\frac{3}{3} + \frac{2.0}{3} + \frac{0.90625367.1}{1})} + e^{2\pi i(\frac{0.760413.1}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2.3}{3} + \frac{0}{3} + \frac{1}{3})} + e^{2\pi i(\frac{3}{3} + \frac{2.0}{3} + \frac{2.1}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{7}{6})} + e^{2\pi i(\frac{7}{2})} + e^{2\pi i(\frac{17}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587}{1})} + e^{2\pi i(\frac{2.09374633}{1})} + e^{2\pi i(\frac{2.57292033}{1})} + e^{2\pi i(\frac{1.42707967}{1})}) \\
&\quad + e^{2\pi i(\frac{1.90625367}{1})} + e^{2\pi i(\frac{0.760413}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{7}{3})} + e^{2\pi i(\frac{5}{3})}) \\
&= f_{Co}([0.5 + (0.86603)i] + -1 + [0.5 + (-0.86603)i]) \\
&\quad + f_O([0.06538 + (0.99786)i] + [0.83148 + (0.55555)i] \\
&\quad + [-0.89686 + (-0.44231)i] + [-0.89686 + (0.44231)i] \\
&\quad + [0.83148 + (-0.55555)i] + [0.06538 + (-0.99786)i]) \\
&\quad + f_{Li}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
&= 4.743456405442714e - 09f_O
\end{aligned}$$



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$$\begin{aligned}
F_{302} &= f_{Co}(e^{2\pi i(\frac{3}{3} + \frac{2.0}{3} + \frac{2}{6})} + e^{2\pi i(3+0+\frac{2}{2})} + e^{2\pi i(\frac{2.3}{3} + \frac{0}{3} + \frac{5.2}{6})}) \\
&\quad + f_O(e^{2\pi i(0+0+\frac{0.239587.2}{1})} + e^{2\pi i(\frac{2.3}{3} + \frac{0}{3} + \frac{0.09374633.2}{1})} + e^{2\pi i(\frac{2.3}{3} + \frac{0}{3} + \frac{0.57292033.2}{1})} + e^{2\pi i(\frac{3}{3} + \frac{2.0}{3} + \frac{0.42707967.2}{1})}) \\
&\quad + e^{2\pi i(\frac{3}{3} + \frac{2.0}{3} + \frac{0.90625367.2}{1})} + e^{2\pi i(0+0+\frac{0.760413.2}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2.3}{3} + \frac{0}{3} + \frac{2}{3})} + e^{2\pi i(\frac{3}{3} + \frac{2.0}{3} + \frac{2.2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{3}{3} + \frac{2.0}{3} + \frac{2}{6})} + e^{2\pi i(3+0+\frac{2}{2})} + e^{2\pi i(\frac{2.3}{3} + \frac{0}{3} + \frac{5.2}{6})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.239587.2}{1})} + e^{2\pi i(\frac{2.3}{3} + \frac{0}{3} + \frac{0.09374633.2}{1})} + e^{2\pi i(\frac{2.3}{3} + \frac{0}{3} + \frac{0.57292033.2}{1})} + e^{2\pi i(\frac{3}{3} + \frac{2.0}{3} + \frac{0.42707967.2}{1})}) \\
&\quad + e^{2\pi i(\frac{3}{3} + \frac{2.0}{3} + \frac{0.90625367.2}{1})} + e^{2\pi i(\frac{0.760413.2}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{2.3}{3} + \frac{0}{3} + \frac{2}{3})} + e^{2\pi i(\frac{3}{3} + \frac{2.0}{3} + \frac{2.2}{3})}) \\
&= f_{Co}(e^{2\pi i(\frac{4}{3})} + e^{2\pi i(4)} + e^{2\pi i(\frac{11}{3})}) \\
&\quad + f_O(e^{2\pi i(\frac{0.479174}{1})} + e^{2\pi i(\frac{2.18749266}{1})} + e^{2\pi i(\frac{3.14584066}{1})} + e^{2\pi i(\frac{1.85415934}{1})}) \\
&\quad + e^{2\pi i(\frac{2.81250734}{1})} + e^{2\pi i(\frac{1.520826}{1})}) \\
&\quad + f_{Li}(e^{2\pi i(0)} + e^{2\pi i(\frac{8}{3})} + e^{2\pi i(\frac{7}{3})}) \\
&= f_{Co}([-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i]) \\
&\quad + f_O([-0.99145 + (0.13048)i] + [0.38273 + (0.92386)i] \\
&\quad + [0.60872 + (0.79338)i] + [0.60872 + (-0.79338)i] \\
&\quad + [0.38273 + (-0.92386)i] + [-0.99145 + (-0.13048)i]) \\
&\quad + f_{Li}(1 + [-0.5 + (-0.86603)i] + [-0.5 + (0.86603)i]) \\
&= 1.4386343161199022e - 07f_O
\end{aligned}$$

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