Coordinates

$$
\begin{aligned}
Co:&\ (0,0,0),(\frac{2}{3},\frac{1}{3},\frac{1}{3}),(\frac{1}{3},\frac{2}{3},\frac{2}{3})\\
O:&\ (\frac{2}{3},\frac{1}{3},\frac{8883}{100000}),(0,0,\frac{489}{2000}),(\frac{1}{3},\frac{2}{3},\frac{42217}{100000}),(\frac{2}{3},\frac{1}{3},\frac{57783}{100000}),(0,0,\frac{151}{200}),(\frac{1}{3},\frac{2}{3},\frac{91117}{100000})\\
Li:&\ (\frac{1}{3},\frac{2}{3},\frac{1}{6}),(0,0,\frac{1}{2}),(\frac{2}{3},\frac{1}{3},\frac{5}{6})\\
Reflections:&\ (0,0,2),(0,1,1),(1,1,0),(1,1,2),(0,1,3),(0,2,0),\\
&(0,0,4),(0,2,2),(2,1,1),(1,1,4),(1,2,3),(2,2,0),\\
&(0,1,5),(0,2,4),(2,2,2),(0,3,1),(3,1,0),(3,1,2),\\
&(1,2,5),(3,2,1),(1,3,4),(2,3,3),(0,4,0),(0,4,2),\\
&(4,1,1),(3,3,2),(4,1,3),(4,2,0),(2,3,5),(3,3,4),\\
&(1,4,5),(2,4,4),(4,3,1),(0,5,1),(5,1,0),(5,1,2),\\
&(0,0,0)
\end{aligned}
$$

$$
\begin{aligned}
F_{hkl} = &\ f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot h}{3}+\frac{k}{3}+\frac{l}{3})} + e^{2\pi i(\frac{h}{3}+\frac{2\cdot k}{3}+\frac{2\cdot l}{3})})\\
&+ f_O(e^{2\pi i(\frac{2\cdot h}{3}+\frac{k}{3}+\frac{8883\cdot l}{100000})} + e^{2\pi i(0+0+\frac{489\cdot l}{2000})} + e^{2\pi i(\frac{h}{3}+\frac{2\cdot k}{3}+\frac{42217\cdot l}{100000})} + e^{2\pi i(\frac{2\cdot h}{3}+\frac{k}{3}+\frac{57783\cdot l}{100000})}\\
&\ + e^{2\pi i(0+0+\frac{151\cdot l}{200})} + e^{2\pi i(\frac{h}{3}+\frac{2\cdot k}{3}+\frac{91117\cdot l}{100000})})\\
&+ f_{Li}(e^{2\pi i(\frac{h}{3}+\frac{2\cdot k}{3}+\frac{l}{6})} + e^{2\pi i(0+0+\frac{l}{2})} + e^{2\pi i(\frac{2\cdot h}{3}+\frac{k}{3}+\frac{5\cdot l}{6})})\\
= &\ f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot h}{3}+\frac{k}{3}+\frac{l}{3})} + e^{2\pi i(\frac{h}{3}+\frac{2\cdot k}{3}+\frac{2\cdot l}{3})})\\
&+ f_O(e^{2\pi i(\frac{2\cdot h}{3}+\frac{k}{3}+\frac{8883\cdot l}{100000})} + e^{2\pi i(\frac{489\cdot l}{2000})} + e^{2\pi i(\frac{h}{3}+\frac{2\cdot k}{3}+\frac{42217\cdot l}{100000})} + e^{2\pi i(\frac{2\cdot h}{3}+\frac{k}{3}+\frac{57783\cdot l}{100000})}\\
&\ + e^{2\pi i(\frac{151\cdot l}{200})} + e^{2\pi i(\frac{h}{3}+\frac{2\cdot k}{3}+\frac{91117\cdot l}{100000})})\\
&+ f_{Li}(e^{2\pi i(\frac{h}{3}+\frac{2\cdot k}{3}+\frac{l}{6})} + e^{2\pi i(\frac{l}{2})} + e^{2\pi i(\frac{2\cdot h}{3}+\frac{k}{3}+\frac{5\cdot l}{6})})
\end{aligned}
$$

$$
\begin{aligned}
F_{002} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{2}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{2\cdot 2}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{8883\cdot 2}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 2}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{42217\cdot 2}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{57783\cdot 2}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 2}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{91117\cdot 2}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{2}{6})} + e^{2\pi i(0+0+\frac{2}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{5\cdot 2}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{2}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{2\cdot 2}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{8883\cdot 2}{100000})} + e^{2\pi i(\frac{489\cdot 2}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{42217\cdot 2}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{57783\cdot 2}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 2}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{91117\cdot 2}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{2}{6})} + e^{2\pi i(\frac{2}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{5\cdot 2}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3})} + e^{2\pi i(\frac{4}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{8883}{50000})} + e^{2\pi i(\frac{489}{1000})} + e^{2\pi i(\frac{42217}{50000})} + e^{2\pi i(\frac{57783}{50000})} \\
& + e^{2\pi i(\frac{151}{100})} + e^{2\pi i(\frac{91117}{50000})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{1}{3})} + e^{2\pi i(1)} + e^{2\pi i(\frac{5}{3})}) \\
= \; & f_{Co}(1 + [-0.5 + (-0.86603)i] + [-0.5 + (0.86603)i]) \\
& + \quad f_O([0.43904 + (0.89847)i] + [-0.99761 + (0.06906)i] \\
& \quad + [0.55865 + (-0.8294)i] + [0.55865 + (0.8294)i] \\
& \quad + [-0.99803 + (-0.06279)i] + [0.43904 + (-0.89847)i]) \\
& + \quad f_{Li}([-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i]) \\
= \; & (-0.00027 + 0.00627i) f_O
\end{aligned}
$$

$$
\begin{aligned}
F_{011} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{1}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 1}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{8883\cdot 1}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 1}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 1}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{57783\cdot 1}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 1}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 1}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{1}{6})} + e^{2\pi i(0+0+\frac{1}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{5\cdot 1}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{1}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 1}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{8883\cdot 1}{100000})} + e^{2\pi i(\frac{489\cdot 1}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 1}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{57783\cdot 1}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 1}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 1}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{1}{6})} + e^{2\pi i(\frac{1}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{5\cdot 1}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3})} + e^{2\pi i(\frac{4}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{21825}{51698})} + e^{2\pi i(\frac{489}{2000})} + e^{2\pi i(\frac{63477}{58298})} + e^{2\pi i(\frac{53119}{58298})} \\
& + e^{2\pi i(\frac{151}{200})} + e^{2\pi i(\frac{81571}{51698})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{5}{6})} + e^{2\pi i(\frac{1}{2})} + e^{2\pi i(\frac{7}{6})}) \\
= \; & f_{Co}(1 + [-0.5 + (-0.86603)i] + [-0.5 + (0.86603)i]) \\
& + \quad f_O([-0.88277 + (0.4698)i] + [0.03455 + (0.9994)i] \\
& \quad + [0.84822 + (0.52964)i] + [0.84822 + (-0.52964)i] \\
& \quad + [0.03141 + (-0.99951)i] + [-0.88277 + (-0.4698)i]) \\
& + \quad f_{Li}([0.5 + (-0.86603)i] + -1 + [0.5 + (0.86603)i]) \\
= \; & (-0.00314 + -0.0001i) f_O
\end{aligned}
$$

$$
\begin{aligned}
F_{110} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{0}{3})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 0}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{8883\cdot 0}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 0}{2000})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 0}{100000})} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{57783\cdot 0}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 0}{200})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 0}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{0}{6})} + e^{2\pi i(0+0+\frac{0}{2})} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{5\cdot 0}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{0}{3})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 0}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{8883\cdot 0}{100000})} + e^{2\pi i(\frac{489\cdot 0}{2000})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 0}{100000})} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{57783\cdot 0}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 0}{200})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 0}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{0}{6})} + e^{2\pi i(\frac{0}{2})} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{5\cdot 0}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(1)} + e^{2\pi i(1)}) \\
& + \; f_O(e^{2\pi i(1)} + e^{2\pi i(0)} + e^{2\pi i(1)} + e^{2\pi i(1)} \\
& + e^{2\pi i(0)} + e^{2\pi i(1)}) \\
& + \; f_{Li}(e^{2\pi i(1)} + e^{2\pi i(0)} + e^{2\pi i(1)}) \\
= \; & f_{Co}(1+1+1) \\
& + \; f_O(1+1+1+1+1+1) \\
& + \; f_{Li}(1+1+1) \\
= \; & 3f_{Co} + 6f_O + 3f_{Li}
\end{aligned}
$$

$$
\begin{aligned}
F_{112} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{2}{3})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 2}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{8883\cdot 2}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 2}{2000})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 2}{100000})} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{57783\cdot 2}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 2}{200})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 2}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{2}{6})} + e^{2\pi i(0+0+\frac{2}{2})} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{5\cdot 2}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{2}{3})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 2}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{8883\cdot 2}{100000})} + e^{2\pi i(\frac{489\cdot 2}{2000})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 2}{100000})} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{57783\cdot 2}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 2}{200})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 2}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{2}{6})} + e^{2\pi i(\frac{2}{2})} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{5\cdot 2}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{5}{3})} + e^{2\pi i(\frac{7}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{58883}{50000})} + e^{2\pi i(\frac{489}{1000})} + e^{2\pi i(\frac{92217}{50000})} + e^{2\pi i(\frac{2.1557}{1})} \\
& + e^{2\pi i(\frac{151}{100})} + e^{2\pi i(\frac{2.8223}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{4}{3})} + e^{2\pi i(1)} + e^{2\pi i(\frac{8}{3})}) \\
= \; & f_{Co}(1 + [-0.5 + (-0.86603)i] + [-0.5 + (0.86603)i]) \\
& + \quad f_O([0.43904 + (0.89847)i] + [-0.99761 + (0.06906)i] \\
& \quad + [0.55865 + (-0.8294)i] + [0.55865 + (0.8294)i] \\
& \quad + [-0.99803 + (-0.06279)i] + [0.43904 + (-0.89847)i]) \\
& + \quad f_{Li}([-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i]) \\
= \; & (-0.00027 + 0.00627i) f_O
\end{aligned}
$$

$$
\begin{aligned}
F_{013} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{3}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 3}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{8883\cdot 3}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 3}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 3}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{57783\cdot 3}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 3}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 3}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{3}{6})} + e^{2\pi i(0+0+\frac{3}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{5\cdot 3}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{3}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 3}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{8883\cdot 3}{100000})} + e^{2\pi i(\frac{489\cdot 3}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 3}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{57783\cdot 3}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 3}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 3}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{3}{6})} + e^{2\pi i(\frac{3}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{5\cdot 3}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{4}{3})} + e^{2\pi i(\frac{8}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{44817}{74717})} + e^{2\pi i(\frac{1467}{2000})} + e^{2\pi i(\frac{51003}{26383})} + e^{2\pi i(\frac{54529}{26383})} \\
& + e^{2\pi i(\frac{453}{200})} + e^{2\pi i(\frac{3.4002}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{7}{6})} + e^{2\pi i(\frac{3}{2})} + e^{2\pi i(\frac{17}{6})}) \\
= \; & f_{Co}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
& + \quad f_O([-0.80967 + (-0.58689)i] + [-0.10349 + (-0.99463)i] \\
& \quad + [0.91314 + (-0.40764)i] + [0.91314 + (0.40764)i] \\
& \quad + [-0.09411 + (0.99556)i] + [-0.80967 + (0.58689)i]) \\
& + \quad f_{Li}([0.5 + (0.86603)i] + -1 + [0.5 + (-0.86603)i]) \\
= \; & (0.00936 + 0.00093i) f_O
\end{aligned}
$$

$$
\begin{aligned}
F_{020} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{0}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{2\cdot 0}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{8883\cdot 0}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 0}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{42217\cdot 0}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{57783\cdot 0}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 0}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{91117\cdot 0}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{0}{6})} + e^{2\pi i(0+0+\frac{0}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{5\cdot 0}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{0}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{2\cdot 0}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{8883\cdot 0}{100000})} + e^{2\pi i(\frac{489\cdot 0}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{42217\cdot 0}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{57783\cdot 0}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 0}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{91117\cdot 0}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{0}{6})} + e^{2\pi i(\frac{0}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{5\cdot 0}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3})} + e^{2\pi i(\frac{4}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{2}{3})} + e^{2\pi i(0)} + e^{2\pi i(\frac{4}{3})} + e^{2\pi i(\frac{2}{3})} \\
& + e^{2\pi i(0)} + e^{2\pi i(\frac{4}{3})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{4}{3})} + e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3})}) \\
= \; & f_{Co}(1 + [-0.5 + (-0.86603)i] + [-0.5 + (0.86603)i]) \\
& + \quad f_O([-0.5 + (-0.86603)i] + 1 + [-0.5 + (0.86603)i] \\
& \quad + [-0.5 + (-0.86603)i] + 1 + [-0.5 + (0.86603)i]) \\
& + \quad f_{Li}([-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i]) \\
= \; & 0(ForbiddenReflection)
\end{aligned}
$$

$$
\begin{aligned}
F_{004} = \; & f_{Co}(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_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{8883\cdot 4}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 4}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{42217\cdot 4}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{57783\cdot 4}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 4}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{91117\cdot 4}{100000})}) \\
& + f_{Li}(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})}) \\
= \; & f_{Co}(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_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{8883\cdot 4}{100000})} + e^{2\pi i(\frac{489\cdot 4}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{42217\cdot 4}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{57783\cdot 4}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 4}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{91117\cdot 4}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{4}{6})} + e^{2\pi i(\frac{4}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{5\cdot 4}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{4}{3})} + e^{2\pi i(\frac{8}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{8883}{25000})} + e^{2\pi i(\frac{489}{500})} + e^{2\pi i(\frac{42217}{25000})} + e^{2\pi i(\frac{57783}{25000})} \\
& + e^{2\pi i(\frac{151}{50})} + e^{2\pi i(\frac{91117}{25000})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{2}{3})} + e^{2\pi i(2)} + e^{2\pi i(\frac{10}{3})}) \\
= \; & f_{Co}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
& + \quad f_O([-0.61449 + (0.78892)i] + [0.99046 + (-0.13779)i] \\
& \quad + [-0.37582 + (-0.92669)i] + [-0.37582 + (0.92669)i] \\
& \quad + [0.99211 + (0.12533)i] + [-0.61449 + (-0.78892)i]) \\
& + \quad f_{Li}([-0.5 + (-0.86603)i] + 1 + [-0.5 + (0.86603)i]) \\
= \; & (0.00194 + -0.01246i) f_O
\end{aligned}
$$

$$
\begin{aligned}
F_{022} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{2}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{2\cdot 2}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{8883\cdot 2}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 2}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{42217\cdot 2}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{57783\cdot 2}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 2}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{91117\cdot 2}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{2}{6})} + e^{2\pi i(0+0+\frac{2}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{5\cdot 2}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{2}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{2\cdot 2}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{8883\cdot 2}{100000})} + e^{2\pi i(\frac{489\cdot 2}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{42217\cdot 2}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{57783\cdot 2}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 2}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{91117\cdot 2}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{2}{6})} + e^{2\pi i(\frac{2}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{5\cdot 2}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{4}{3})} + e^{2\pi i(\frac{8}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{82999}{98302})} + e^{2\pi i(\frac{489}{1000})} + e^{2\pi i(\frac{2.1777}{1})} + e^{2\pi i(\frac{1.8223}{1})} \\
& + e^{2\pi i(\frac{151}{100})} + e^{2\pi i(\frac{3.1557}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{5}{3})} + e^{2\pi i(1)} + e^{2\pi i(\frac{7}{3})}) \\
= \; & f_{Co}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
& + \quad f_O([0.55858 + (-0.82945)i] + [-0.99761 + (0.06906)i] \\
& \quad + [0.43896 + (0.89851)i] + [0.43896 + (-0.89851)i] \\
& \quad + [-0.99803 + (-0.06279)i] + [0.55858 + (0.82945)i]) \\
& + \quad f_{Li}([-0.5 + (-0.86603)i] + 1 + [-0.5 + (0.86603)i]) \\
= \; & (-0.00056 + 0.00627i) f_O
\end{aligned}
$$

$$
\begin{aligned}
F_{211} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{1}{3}+\frac{1}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 1}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 2}{3}+\frac{1}{3}+\frac{8883\cdot 1}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 1}{2000})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 1}{100000})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{1}{3}+\frac{57783\cdot 1}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 1}{200})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 1}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{2}{3}+\frac{2\cdot 1}{3}+\frac{1}{6})} + e^{2\pi i(0+0+\frac{1}{2})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{1}{3}+\frac{5\cdot 1}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{1}{3}+\frac{1}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 1}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 2}{3}+\frac{1}{3}+\frac{8883\cdot 1}{100000})} + e^{2\pi i(\frac{489\cdot 1}{2000})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 1}{100000})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{1}{3}+\frac{57783\cdot 1}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 1}{200})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 1}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{2}{3}+\frac{2\cdot 1}{3}+\frac{1}{6})} + e^{2\pi i(\frac{1}{2})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{1}{3}+\frac{5\cdot 1}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{1})} + e^{2\pi i(2)}) \\
& + \quad f_O(e^{2\pi i(\frac{42397}{24151})} + e^{2\pi i(\frac{489}{2000})} + e^{2\pi i(\frac{36604}{20851})} + e^{2\pi i(\frac{46800}{20851})} \\
& + e^{2\pi i(\frac{151}{200})} + e^{2\pi i(\frac{54207}{24151})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{3}{2})} + e^{2\pi i(\frac{1}{2})} + e^{2\pi i(\frac{5}{2})}) \\
= \; & f_{Co}(1+1+1) \\
& + \quad f_O([0.03453 + (-0.9994)i] + [0.03455 + (0.9994)i] \\
& \quad + [0.03457 + (-0.9994)i] + [0.03457 + (0.9994)i] \\
& \quad + [0.03141 + (-0.99951)i] + [0.03453 + (0.9994)i]) \\
& + \quad f_{Li}(-1 + -1 + -1) \\
= \; & 3f_{Co} + (0.20416 + -0.0001i)f_O - 3f_{Li}
\end{aligned}
$$

$$
\begin{aligned}
F_{114} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{4}{3})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 4}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{8883\cdot 4}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 4}{2000})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 4}{100000})} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{57783\cdot 4}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 4}{200})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 4}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{4}{6})} + e^{2\pi i(0+0+\frac{4}{2})} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{5\cdot 4}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{4}{3})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 4}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{8883\cdot 4}{100000})} + e^{2\pi i(\frac{489\cdot 4}{2000})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 4}{100000})} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{57783\cdot 4}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 4}{200})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 4}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{1}{3}+\frac{2\cdot 1}{3}+\frac{4}{6})} + e^{2\pi i(\frac{4}{2})} + e^{2\pi i(\frac{2\cdot 1}{3}+\frac{1}{3}+\frac{5\cdot 4}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{7}{3})} + e^{2\pi i(\frac{11}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{33883}{25000})} + e^{2\pi i(\frac{489}{500})} + e^{2\pi i(\frac{67217}{25000})} + e^{2\pi i(\frac{82783}{25000})} \\
& + e^{2\pi i(\frac{151}{50})} + e^{2\pi i(\frac{4.6447}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{5}{3})} + e^{2\pi i(2)} + e^{2\pi i(\frac{13}{3})}) \\
= \; & f_{Co}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
& + \quad f_O([-0.61449 + (0.78892)i] + [0.99046 + (-0.13779)i] \\
& \quad + [-0.37582 + (-0.92669)i] + [-0.37582 + (0.92669)i] \\
& \quad + [0.99211 + (0.12533)i] + [-0.61449 + (-0.78892)i]) \\
& + \quad f_{Li}([-0.5 + (-0.86603)i] + 1 + [-0.5 + (0.86603)i]) \\
= \; & (0.00194 + -0.01246i) f_O
\end{aligned}
$$

$$
\begin{aligned}
F_{123} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{2}{3}+\frac{3}{3})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot2}{3}+\frac{2\cdot3}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot1}{3}+\frac{2}{3}+\frac{8883\cdot3}{100000})} + e^{2\pi i(0+0+\frac{489\cdot3}{2000})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot2}{3}+\frac{42217\cdot3}{100000})} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{2}{3}+\frac{57783\cdot3}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot3}{200})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot2}{3}+\frac{91117\cdot3}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{1}{3}+\frac{2\cdot2}{3}+\frac{3}{6})} + e^{2\pi i(0+0+\frac{3}{2})} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{2}{3}+\frac{5\cdot3}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{2}{3}+\frac{3}{3})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot2}{3}+\frac{2\cdot3}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot1}{3}+\frac{2}{3}+\frac{8883\cdot3}{100000})} + e^{2\pi i(\frac{489\cdot3}{2000})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot2}{3}+\frac{42217\cdot3}{100000})} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{2}{3}+\frac{57783\cdot3}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot3}{200})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot2}{3}+\frac{91117\cdot3}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{1}{3}+\frac{2\cdot2}{3}+\frac{3}{6})} + e^{2\pi i(\frac{3}{2})} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{2}{3}+\frac{5\cdot3}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{7}{3})} + e^{2\pi i(\frac{11}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{1.5998}{1})} + e^{2\pi i(\frac{1467}{2000})} + e^{2\pi i(\frac{77386}{26383})} + e^{2\pi i(\frac{80912}{26383})} \\
& + e^{2\pi i(\frac{453}{200})} + e^{2\pi i(\frac{4.4002}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{13}{6})} + e^{2\pi i(\frac{3}{2})} + e^{2\pi i(\frac{23}{6})}) \\
= \; & f_{Co}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
& + \quad f_O([-0.80967 + (-0.58689)i] + [-0.10349 + (-0.99463)i] \\
& \quad + [0.91314 + (-0.40764)i] + [0.91314 + (0.40764)i] \\
& \quad + [-0.09411 + (0.99556)i] + [-0.80967 + (0.58689)i]) \\
& + \quad f_{Li}([0.5 + (0.86603)i] + -1 + [0.5 + (-0.86603)i]) \\
= \; & (0.00936 + 0.00093i) f_O
\end{aligned}
$$

$$
\begin{aligned}
F_{220} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0}{3})}) \\
& + f_O(e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{8883\cdot 0}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 0}{2000})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{42217\cdot 0}{100000})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{57783\cdot 0}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 0}{200})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{91117\cdot 0}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0}{6})} + e^{2\pi i(0+0+\frac{0}{2})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{5\cdot 0}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0}{3})}) \\
& + f_O(e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{8883\cdot 0}{100000})} + e^{2\pi i(\frac{489\cdot 0}{2000})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{42217\cdot 0}{100000})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{57783\cdot 0}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 0}{200})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{91117\cdot 0}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{0}{6})} + e^{2\pi i(\frac{0}{2})} + e^{2\pi i(\frac{2}{3}+\frac{2}{3}+\frac{5\cdot 0}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(2)} + e^{2\pi i(2)}) \\
& + \; f_O(e^{2\pi i(2)} + e^{2\pi i(0)} + e^{2\pi i(2)} + e^{2\pi i(2)} \\
& + e^{2\pi i(0)} + e^{2\pi i(2)}) \\
& + \; f_{Li}(e^{2\pi i(2)} + e^{2\pi i(0)} + e^{2\pi i(2)}) \\
= \; & f_{Co}(1+1+1) \\
& + \; f_O(1+1+1+1+1+1) \\
& + \; f_{Li}(1+1+1) \\
= \; & 3f_{Co} + 6f_O + 3f_{Li}
\end{aligned}
$$

$$
\begin{aligned}
F_{015} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{5}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 5}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{8883\cdot 5}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 5}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 5}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{57783\cdot 5}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 5}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 5}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{5}{6})} + e^{2\pi i(0+0+\frac{5}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{5\cdot 5}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{5}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 5}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{8883\cdot 5}{100000})} + e^{2\pi i(\frac{489\cdot 5}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 5}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{57783\cdot 5}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 5}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 5}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 1}{3}+\frac{5}{6})} + e^{2\pi i(\frac{5}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{1}{3}+\frac{5\cdot 5}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{1})} + e^{2\pi i(\frac{4}{1})}) \\
& + \quad f_O(e^{2\pi i(\frac{46649}{60000})} + e^{2\pi i(\frac{489}{400})} + e^{2\pi i(\frac{2.7775}{1})} + e^{2\pi i(\frac{3.2225}{1})} \\
& + e^{2\pi i(\frac{151}{40})} + e^{2\pi i(\frac{5.2225}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{3}{2})} + e^{2\pi i(\frac{5}{2})} + e^{2\pi i(\frac{9}{2})}) \\
= \; & f_{Co}(1+1+1) \\
& + \quad f_O([0.17183 + (-0.98513)i] + [0.17193 + (0.98511)i] \\
& \quad + [0.17203 + (-0.98509)i] + [0.17203 + (0.98509)i] \\
& \quad + [0.15643 + (-0.98769)i] + [0.17183 + (0.98513)i]) \\
& + \quad f_{Li}(-1 + -1 + -1) \\
= \; & 3f_{Co} + (1.01608 + -0.00258i)f_O - 3f_{Li}
\end{aligned}
$$

$$
\begin{aligned}
F_{024} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{4}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{2\cdot 4}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{8883\cdot 4}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 4}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{42217\cdot 4}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{57783\cdot 4}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 4}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{91117\cdot 4}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{4}{6})} + e^{2\pi i(0+0+\frac{4}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{5\cdot 4}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{4}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{2\cdot 4}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{8883\cdot 4}{100000})} + e^{2\pi i(\frac{489\cdot 4}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{42217\cdot 4}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{57783\cdot 4}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 4}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{91117\cdot 4}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 2}{3}+\frac{4}{6})} + e^{2\pi i(\frac{4}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{2}{3}+\frac{5\cdot 4}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(2)} + e^{2\pi i(4)}) \\
& + \quad f_O(e^{2\pi i(\frac{76649}{75000})} + e^{2\pi i(\frac{489}{500})} + e^{2\pi i(\frac{3.022}{1})} + e^{2\pi i(\frac{2.978}{1})} \\
& + e^{2\pi i(\frac{151}{50})} + e^{2\pi i(\frac{4.978}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(2)} + e^{2\pi i(2)} + e^{2\pi i(4)}) \\
= \; & f_{Co}(1+1+1) \\
& + \quad f_O([0.99047 + (0.13771)i] + [0.99046 + (-0.13779)i] \\
& \quad + [0.99045 + (0.13787)i] + [0.99045 + (-0.13787)i] \\
& \quad + [0.99211 + (0.12533)i] + [0.99047 + (-0.13771)i]) \\
& + \quad f_{Li}(1+1+1) \\
= \; & 3f_{Co} + (5.94442 + -0.01246i)f_O + 3f_{Li}
\end{aligned}
$$

$$
\begin{aligned}
F_{222} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{2}{3}+\frac{2}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 2}{3}+\frac{2\cdot 2}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 2}{3}+\frac{2}{3}+\frac{8883\cdot 2}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 2}{2000})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 2}{3}+\frac{42217\cdot 2}{100000})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{2}{3}+\frac{57783\cdot 2}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 2}{200})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 2}{3}+\frac{91117\cdot 2}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{2}{3}+\frac{2\cdot 2}{3}+\frac{2}{6})} + e^{2\pi i(0+0+\frac{2}{2})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{2}{3}+\frac{5\cdot 2}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{2}{3}+\frac{2}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 2}{3}+\frac{2\cdot 2}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 2}{3}+\frac{2}{3}+\frac{8883\cdot 2}{100000})} + e^{2\pi i(\frac{489\cdot 2}{2000})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 2}{3}+\frac{42217\cdot 2}{100000})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{2}{3}+\frac{57783\cdot 2}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 2}{200})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 2}{3}+\frac{91117\cdot 2}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{2}{3}+\frac{2\cdot 2}{3}+\frac{2}{6})} + e^{2\pi i(\frac{2}{2})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{2}{3}+\frac{5\cdot 2}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{8}{3})} + e^{2\pi i(\frac{10}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{2.1777}{1})} + e^{2\pi i(\frac{489}{1000})} + e^{2\pi i(\frac{2.8443}{1})} + e^{2\pi i(\frac{3.1557}{1})} \\
& + e^{2\pi i(\frac{151}{100})} + e^{2\pi i(\frac{3.8223}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{7}{3})} + e^{2\pi i(1)} + e^{2\pi i(\frac{11}{3})}) \\
= \; & f_{Co}(1 + [-0.5 + (-0.86603)i] + [-0.5 + (0.86603)i]) \\
& + \quad f_O([0.43904 + (0.89847)i] + [-0.99761 + (0.06906)i] \\
& \quad + [0.55865 + (-0.8294)i] + [0.55865 + (0.8294)i] \\
& \quad + [-0.99803 + (-0.06279)i] + [0.43904 + (-0.89847)i]) \\
& + \quad f_{Li}([-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i]) \\
= \; & (-0.00027 + 0.00627i) f_O
\end{aligned}
$$

$$
\begin{aligned}
F_{031} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{3}{3}+\frac{1}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 3}{3}+\frac{2\cdot 1}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{3}{3}+\frac{8883\cdot 1}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 1}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 3}{3}+\frac{42217\cdot 1}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{3}{3}+\frac{57783\cdot 1}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 1}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 3}{3}+\frac{91117\cdot 1}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 3}{3}+\frac{1}{6})} + e^{2\pi i(0+0+\frac{1}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{3}{3}+\frac{5\cdot 1}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{3}{3}+\frac{1}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 3}{3}+\frac{2\cdot 1}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{3}{3}+\frac{8883\cdot 1}{100000})} + e^{2\pi i(\frac{489\cdot 1}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 3}{3}+\frac{42217\cdot 1}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{3}{3}+\frac{57783\cdot 1}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 1}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 3}{3}+\frac{91117\cdot 1}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 3}{3}+\frac{1}{6})} + e^{2\pi i(\frac{1}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{3}{3}+\frac{5\cdot 1}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{4}{3})} + e^{2\pi i(\frac{8}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{1.0888}{1})} + e^{2\pi i(\frac{489}{2000})} + e^{2\pi i(\frac{2.4222}{1})} + e^{2\pi i(\frac{1.5778}{1})} \\
& + e^{2\pi i(\frac{151}{200})} + e^{2\pi i(\frac{2.9112}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{13}{6})} + e^{2\pi i(\frac{1}{2})} + e^{2\pi i(\frac{11}{6})}) \\
= \; & f_{Co}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
& + \quad f_O([0.84824 + (0.52961)i] + [0.03455 + (0.9994)i] \\
& \quad + [-0.88279 + (0.46976)i] + [-0.88279 + (-0.46976)i] \\
& \quad + [0.03141 + (-0.99951)i] + [0.84824 + (-0.52961)i]) \\
& + \quad f_{Li}([0.5 + (0.86603)i] + -1 + [0.5 + (-0.86603)i]) \\
= \; & (-0.00314 + -0.0001i) f_O
\end{aligned}
$$

$$
\begin{aligned}
F_{310} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2}{3}\cdot 3+\frac{1}{3}+\frac{0}{3})} + e^{2\pi i(\frac{3}{3}+\frac{2}{3}\cdot 1+\frac{2}{3}\cdot 0)}) \\
& + f_O(e^{2\pi i(\frac{2}{3}\cdot 3+\frac{1}{3}+\frac{8883\cdot 0}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 0}{2000})} + e^{2\pi i(\frac{3}{3}+\frac{2}{3}\cdot 1+\frac{42217\cdot 0}{100000})} + e^{2\pi i(\frac{2}{3}\cdot 3+\frac{1}{3}+\frac{57783\cdot 0}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 0}{200})} + e^{2\pi i(\frac{3}{3}+\frac{2}{3}\cdot 1+\frac{91117\cdot 0}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{3}{3}+\frac{2}{3}\cdot 1+\frac{0}{6})} + e^{2\pi i(0+0+\frac{0}{2})} + e^{2\pi i(\frac{2}{3}\cdot 3+\frac{1}{3}+\frac{5}{6}\cdot 0)}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{3}\cdot 3+\frac{1}{3}+\frac{0}{3})} + e^{2\pi i(\frac{3}{3}+\frac{2}{3}\cdot 1+\frac{2}{3}\cdot 0)}) \\
& + f_O(e^{2\pi i(\frac{2}{3}\cdot 3+\frac{1}{3}+\frac{8883\cdot 0}{100000})} + e^{2\pi i(\frac{489\cdot 0}{2000})} + e^{2\pi i(\frac{3}{3}+\frac{2}{3}\cdot 1+\frac{42217\cdot 0}{100000})} + e^{2\pi i(\frac{2}{3}\cdot 3+\frac{1}{3}+\frac{57783\cdot 0}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 0}{200})} + e^{2\pi i(\frac{3}{3}+\frac{2}{3}\cdot 1+\frac{91117\cdot 0}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{3}{3}+\frac{2}{3}\cdot 1+\frac{0}{6})} + e^{2\pi i(\frac{0}{2})} + e^{2\pi i(\frac{2}{3}\cdot 3+\frac{1}{3}+\frac{5}{6}\cdot 0)}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{7}{3})} + e^{2\pi i(\frac{5}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{7}{3})} + e^{2\pi i(0)} + e^{2\pi i(\frac{5}{3})} + e^{2\pi i(\frac{7}{3})} \\
& + e^{2\pi i(0)} + e^{2\pi i(\frac{5}{3})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{5}{3})} + e^{2\pi i(0)} + e^{2\pi i(\frac{7}{3})}) \\
= \; & f_{Co}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
& + \quad f_O([-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i] \\
& \quad + [-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i]) \\
& + \quad f_{Li}([-0.5 + (-0.86603)i] + 1 + [-0.5 + (0.86603)i]) \\
= \; & 0(ForbiddenReflection)
\end{aligned}
$$

$$
\begin{aligned}
F_{312} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{1}{3}+\frac{2}{3})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 2}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 3}{3}+\frac{1}{3}+\frac{8883\cdot 2}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 2}{2000})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 2}{100000})} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{1}{3}+\frac{57783\cdot 2}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 2}{200})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 2}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{3}{3}+\frac{2\cdot 1}{3}+\frac{2}{6})} + e^{2\pi i(0+0+\frac{2}{2})} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{1}{3}+\frac{5\cdot 2}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{1}{3}+\frac{2}{3})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 2}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 3}{3}+\frac{1}{3}+\frac{8883\cdot 2}{100000})} + e^{2\pi i(\frac{489\cdot 2}{2000})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 2}{100000})} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{1}{3}+\frac{57783\cdot 2}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 2}{200})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 2}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{3}{3}+\frac{2\cdot 1}{3}+\frac{2}{6})} + e^{2\pi i(\frac{2}{2})} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{1}{3}+\frac{5\cdot 2}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(3)} + e^{2\pi i(3)}) \\
& + \quad f_O(e^{2\pi i(\frac{2.511}{1})} + e^{2\pi i(\frac{489}{1000})} + e^{2\pi i(\frac{2.511}{1})} + e^{2\pi i(\frac{3.489}{1})} \\
& + e^{2\pi i(\frac{151}{100})} + e^{2\pi i(\frac{3.489}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{2}{1})} + e^{2\pi i(1)} + e^{2\pi i(4)}) \\
= \; & f_{Co}(1+1+1) \\
& + \quad f_O([-0.99762 + (-0.06902)i] + [-0.99761 + (0.06906)i] \\
& \quad + [-0.99761 + (-0.0691)i] + [-0.99761 + (0.0691)i] \\
& \quad + [-0.99803 + (-0.06279)i] + [-0.99762 + (0.06902)i]) \\
& + \quad f_{Li}(1+1+1) \\
= \; & 3f_{Co} + (-5.98609 + 0.00627i)f_O + 3f_{Li}
\end{aligned}
$$

$$
\begin{aligned}
F_{125} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{2}{3}+\frac{5}{3})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot2}{3}+\frac{2\cdot5}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot1}{3}+\frac{2}{3}+\frac{8883\cdot5}{100000})} + e^{2\pi i(0+0+\frac{489\cdot5}{2000})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot2}{3}+\frac{42217\cdot5}{100000})} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{2}{3}+\frac{57783\cdot5}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot5}{200})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot2}{3}+\frac{91117\cdot5}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{1}{3}+\frac{2\cdot2}{3}+\frac{5}{6})} + e^{2\pi i(0+0+\frac{5}{2})} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{2}{3}+\frac{5\cdot5}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{2}{3}+\frac{5}{3})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot2}{3}+\frac{2\cdot5}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot1}{3}+\frac{2}{3}+\frac{8883\cdot5}{100000})} + e^{2\pi i(\frac{489\cdot5}{2000})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot2}{3}+\frac{42217\cdot5}{100000})} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{2}{3}+\frac{57783\cdot5}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot5}{200})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot2}{3}+\frac{91117\cdot5}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{1}{3}+\frac{2\cdot2}{3}+\frac{5}{6})} + e^{2\pi i(\frac{5}{2})} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{2}{3}+\frac{5\cdot5}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(3)} + e^{2\pi i(5)}) \\
& + \quad f_O(e^{2\pi i(\frac{1.7775}{1})} + e^{2\pi i(\frac{489}{400})} + e^{2\pi i(\frac{3.7775}{1})} + e^{2\pi i(\frac{4.2225}{1})} \\
& + e^{2\pi i(\frac{151}{40})} + e^{2\pi i(\frac{6.2225}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{5}{2})} + e^{2\pi i(\frac{5}{2})} + e^{2\pi i(\frac{11}{2})}) \\
= \; & f_{Co}(1+1+1) \\
& + \quad f_O([0.17183 + (-0.98513)i] + [0.17193 + (0.98511)i] \\
& \quad + [0.17203 + (-0.98509)i] + [0.17203 + (0.98509)i] \\
& \quad + [0.15643 + (-0.98769)i] + [0.17183 + (0.98513)i]) \\
& + \quad f_{Li}(-1 + -1 + -1) \\
= \; & 3f_{Co} + (1.01608 + -0.00258i)f_O - 3f_{Li}
\end{aligned}
$$

$$
\begin{aligned}
F_{321} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{2}{3}+\frac{1}{3})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 2}{3}+\frac{2\cdot 1}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 3}{3}+\frac{2}{3}+\frac{8883\cdot 1}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 1}{2000})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 2}{3}+\frac{42217\cdot 1}{100000})} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{2}{3}+\frac{57783\cdot 1}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 1}{200})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 2}{3}+\frac{91117\cdot 1}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{3}{3}+\frac{2\cdot 2}{3}+\frac{1}{6})} + e^{2\pi i(0+0+\frac{1}{2})} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{2}{3}+\frac{5\cdot 1}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{2}{3}+\frac{1}{3})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 2}{3}+\frac{2\cdot 1}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 3}{3}+\frac{2}{3}+\frac{8883\cdot 1}{100000})} + e^{2\pi i(\frac{489\cdot 1}{2000})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 2}{3}+\frac{42217\cdot 1}{100000})} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{2}{3}+\frac{57783\cdot 1}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 1}{200})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 2}{3}+\frac{91117\cdot 1}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{3}{3}+\frac{2\cdot 2}{3}+\frac{1}{6})} + e^{2\pi i(\frac{1}{2})} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{2}{3}+\frac{5\cdot 1}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(3)} + e^{2\pi i(\frac{3}{1})}) \\
& + \quad f_O(e^{2\pi i(\frac{66548}{24151})} + e^{2\pi i(\frac{489}{2000})} + e^{2\pi i(\frac{57455}{20851})} + e^{2\pi i(\frac{67651}{20851})} \\
& + e^{2\pi i(\frac{151}{200})} + e^{2\pi i(\frac{78358}{24151})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{5}{2})} + e^{2\pi i(\frac{1}{2})} + e^{2\pi i(\frac{7}{2})}) \\
= \; & f_{Co}(1+1+1) \\
& + \quad f_O([0.03453 + (-0.9994)i] + [0.03455 + (0.9994)i] \\
& \quad + [0.03457 + (-0.9994)i] + [0.03457 + (0.9994)i] \\
& \quad + [0.03141 + (-0.99951)i] + [0.03453 + (0.9994)i]) \\
& + \quad f_{Li}(-1 + -1 + -1) \\
= \; & 3f_{Co} + (0.20416 + -0.0001i)f_O - 3f_{Li}
\end{aligned}
$$

$$
\begin{aligned}
F_{134} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{3}{3}+\frac{4}{3})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot3}{3}+\frac{2\cdot4}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot1}{3}+\frac{3}{3}+\frac{8883\cdot4}{100000})} + e^{2\pi i(0+0+\frac{489\cdot4}{2000})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot3}{3}+\frac{42217\cdot4}{100000})} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{3}{3}+\frac{57783\cdot4}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot4}{200})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot3}{3}+\frac{91117\cdot4}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{1}{3}+\frac{2\cdot3}{3}+\frac{4}{6})} + e^{2\pi i(0+0+\frac{4}{2})} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{3}{3}+\frac{5\cdot4}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{3}{3}+\frac{4}{3})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot3}{3}+\frac{2\cdot4}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot1}{3}+\frac{3}{3}+\frac{8883\cdot4}{100000})} + e^{2\pi i(\frac{489\cdot4}{2000})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot3}{3}+\frac{42217\cdot4}{100000})} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{3}{3}+\frac{57783\cdot4}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot4}{200})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot3}{3}+\frac{91117\cdot4}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{1}{3}+\frac{2\cdot3}{3}+\frac{4}{6})} + e^{2\pi i(\frac{4}{2})} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{3}{3}+\frac{5\cdot4}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(3)} + e^{2\pi i(5)}) \\
& + \quad f_O(e^{2\pi i(\frac{2.022}{1})} + e^{2\pi i(\frac{489}{500})} + e^{2\pi i(\frac{4.022}{1})} + e^{2\pi i(\frac{3.978}{1})} \\
& + e^{2\pi i(\frac{151}{50})} + e^{2\pi i(\frac{5.978}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(3)} + e^{2\pi i(2)} + e^{2\pi i(5)}) \\
= \; & f_{Co}(1+1+1) \\
& + \quad f_O([0.99047 + (0.13771)i] + [0.99046 + (-0.13779)i] \\
& \quad + [0.99045 + (0.13787)i] + [0.99045 + (-0.13787)i] \\
& \quad + [0.99211 + (0.12533)i] + [0.99047 + (-0.13771)i]) \\
& + \quad f_{Li}(1+1+1) \\
= \; & 3f_{Co} + (5.94442 + -0.01246i)f_O + 3f_{Li}
\end{aligned}
$$

$$
\begin{aligned}
F_{233} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{3}{3}+\frac{3}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 3}{3}+\frac{2\cdot 3}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 2}{3}+\frac{3}{3}+\frac{8883\cdot 3}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 3}{2000})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 3}{3}+\frac{42217\cdot 3}{100000})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{3}{3}+\frac{57783\cdot 3}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 3}{200})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 3}{3}+\frac{91117\cdot 3}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{2}{3}+\frac{2\cdot 3}{3}+\frac{3}{6})} + e^{2\pi i(0+0+\frac{3}{2})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{3}{3}+\frac{5\cdot 3}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{3}{3}+\frac{3}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 3}{3}+\frac{2\cdot 3}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 2}{3}+\frac{3}{3}+\frac{8883\cdot 3}{100000})} + e^{2\pi i(\frac{489\cdot 3}{2000})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 3}{3}+\frac{42217\cdot 3}{100000})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{3}{3}+\frac{57783\cdot 3}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 3}{200})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 3}{3}+\frac{91117\cdot 3}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{2}{3}+\frac{2\cdot 3}{3}+\frac{3}{6})} + e^{2\pi i(\frac{3}{2})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{3}{3}+\frac{5\cdot 3}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{10}{3})} + e^{2\pi i(\frac{14}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{2.5998}{1})} + e^{2\pi i(\frac{1467}{2000})} + e^{2\pi i(\frac{3.9332}{1})} + e^{2\pi i(\frac{4.0668}{1})} \\
& + e^{2\pi i(\frac{453}{200})} + e^{2\pi i(\frac{5.4002}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{19}{6})} + e^{2\pi i(\frac{3}{2})} + e^{2\pi i(\frac{29}{6})}) \\
= \; & f_{Co}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
& + \quad f_O([-0.80967 + (-0.58689)i] + [-0.10349 + (-0.99463)i] \\
& \quad + [0.91314 + (-0.40764)i] + [0.91314 + (0.40764)i] \\
& \quad + [-0.09411 + (0.99556)i] + [-0.80967 + (0.58689)i]) \\
& + \quad f_{Li}([0.5 + (0.86603)i] + -1 + [0.5 + (-0.86603)i]) \\
= \; & (0.00936 + 0.00093i) f_O
\end{aligned}
$$

$$
\begin{aligned}
F_{040} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{4}{3}+\frac{0}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 4}{3}+\frac{2\cdot 0}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{4}{3}+\frac{8883\cdot 0}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 0}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 4}{3}+\frac{42217\cdot 0}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{4}{3}+\frac{57783\cdot 0}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 0}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 4}{3}+\frac{91117\cdot 0}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 4}{3}+\frac{0}{6})} + e^{2\pi i(0+0+\frac{0}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{4}{3}+\frac{5\cdot 0}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{4}{3}+\frac{0}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 4}{3}+\frac{2\cdot 0}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{4}{3}+\frac{8883\cdot 0}{100000})} + e^{2\pi i(\frac{489\cdot 0}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 4}{3}+\frac{42217\cdot 0}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{4}{3}+\frac{57783\cdot 0}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 0}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 4}{3}+\frac{91117\cdot 0}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 4}{3}+\frac{0}{6})} + e^{2\pi i(\frac{0}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{4}{3}+\frac{5\cdot 0}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{4}{3})} + e^{2\pi i(\frac{8}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{4}{3})} + e^{2\pi i(0)} + e^{2\pi i(\frac{8}{3})} + e^{2\pi i(\frac{4}{3})} \\
& + e^{2\pi i(0)} + e^{2\pi i(\frac{8}{3})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{8}{3})} + e^{2\pi i(0)} + e^{2\pi i(\frac{4}{3})}) \\
= \; & f_{Co}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
& + \quad f_O([-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i] \\
& \quad + [-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i]) \\
& + \quad f_{Li}([-0.5 + (-0.86603)i] + 1 + [-0.5 + (0.86603)i]) \\
= \; & 0(ForbiddenReflection)
\end{aligned}
$$

$$
\begin{aligned}
F_{042} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{4}{3}+\frac{2}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 4}{3}+\frac{2\cdot 2}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{4}{3}+\frac{8883\cdot 2}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 2}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 4}{3}+\frac{42217\cdot 2}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{4}{3}+\frac{57783\cdot 2}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 2}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 4}{3}+\frac{91117\cdot 2}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 4}{3}+\frac{2}{6})} + e^{2\pi i(0+0+\frac{2}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{4}{3}+\frac{5\cdot 2}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{4}{3}+\frac{2}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 4}{3}+\frac{2\cdot 2}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{4}{3}+\frac{8883\cdot 2}{100000})} + e^{2\pi i(\frac{489\cdot 2}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 4}{3}+\frac{42217\cdot 2}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{4}{3}+\frac{57783\cdot 2}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 2}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 4}{3}+\frac{91117\cdot 2}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 4}{3}+\frac{2}{6})} + e^{2\pi i(\frac{2}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{4}{3}+\frac{5\cdot 2}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(2)} + e^{2\pi i(4)}) \\
& + \quad f_O(e^{2\pi i(\frac{1.511}{1})} + e^{2\pi i(\frac{489}{1000})} + e^{2\pi i(\frac{3.511}{1})} + e^{2\pi i(\frac{2.489}{1})} \\
& + e^{2\pi i(\frac{151}{100})} + e^{2\pi i(\frac{4.489}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(3)} + e^{2\pi i(1)} + e^{2\pi i(3)}) \\
= \; & f_{Co}(1+1+1) \\
& + \quad f_O([-0.99762 + (-0.06902)i] + [-0.99761 + (0.06906)i] \\
& \quad + [-0.99761 + (-0.0691)i] + [-0.99761 + (0.0691)i] \\
& \quad + [-0.99803 + (-0.06279)i] + [-0.99762 + (0.06902)i]) \\
& + \quad f_{Li}(1+1+1) \\
= \; & 3f_{Co} + (-5.98609 + 0.00627i)f_O + 3f_{Li}
\end{aligned}
$$

$$
\begin{aligned}
F_{411} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 4}{3}+\frac{1}{3}+\frac{1}{3})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 1}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 4}{3}+\frac{1}{3}+\frac{8883\cdot 1}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 1}{2000})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 1}{100000})} + e^{2\pi i(\frac{2\cdot 4}{3}+\frac{1}{3}+\frac{57783\cdot 1}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 1}{200})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 1}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{4}{3}+\frac{2\cdot 1}{3}+\frac{1}{6})} + e^{2\pi i(0+0+\frac{1}{2})} + e^{2\pi i(\frac{2\cdot 4}{3}+\frac{1}{3}+\frac{5\cdot 1}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 4}{3}+\frac{1}{3}+\frac{1}{3})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 1}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 4}{3}+\frac{1}{3}+\frac{8883\cdot 1}{100000})} + e^{2\pi i(\frac{489\cdot 1}{2000})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 1}{100000})} + e^{2\pi i(\frac{2\cdot 4}{3}+\frac{1}{3}+\frac{57783\cdot 1}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 1}{200})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 1}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{4}{3}+\frac{2\cdot 1}{3}+\frac{1}{6})} + e^{2\pi i(\frac{1}{2})} + e^{2\pi i(\frac{2\cdot 4}{3}+\frac{1}{3}+\frac{5\cdot 1}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{10}{3})} + e^{2\pi i(\frac{8}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{3.0888}{1})} + e^{2\pi i(\frac{489}{2000})} + e^{2\pi i(\frac{2.4222}{1})} + e^{2\pi i(\frac{3.5778}{1})} \\
& + e^{2\pi i(\frac{151}{200})} + e^{2\pi i(\frac{2.9112}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{13}{6})} + e^{2\pi i(\frac{1}{2})} + e^{2\pi i(\frac{23}{6})}) \\
= \; & f_{Co}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
& + \quad f_O([0.84824 + (0.52961)i] + [0.03455 + (0.9994)i] \\
& \quad + [-0.88279 + (0.46976)i] + [-0.88279 + (-0.46976)i] \\
& \quad + [0.03141 + (-0.99951)i] + [0.84824 + (-0.52961)i]) \\
& + \quad f_{Li}([0.5 + (0.86603)i] + -1 + [0.5 + (-0.86603)i]) \\
= \; & (-0.00314 + -0.0001i) f_O
\end{aligned}
$$

$$
\begin{aligned}
F_{332} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{3}{3}+\frac{2}{3})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 3}{3}+\frac{2\cdot 2}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 3}{3}+\frac{3}{3}+\frac{8883\cdot 2}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 2}{2000})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 3}{3}+\frac{42217\cdot 2}{100000})} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{3}{3}+\frac{57783\cdot 2}{100000})} \\
& \; + e^{2\pi i(0+0+\frac{151\cdot 2}{200})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 3}{3}+\frac{91117\cdot 2}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{3}{3}+\frac{2\cdot 3}{3}+\frac{2}{6})} + e^{2\pi i(0+0+\frac{2}{2})} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{3}{3}+\frac{5\cdot 2}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{3}{3}+\frac{2}{3})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 3}{3}+\frac{2\cdot 2}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 3}{3}+\frac{3}{3}+\frac{8883\cdot 2}{100000})} + e^{2\pi i(\frac{489\cdot 2}{2000})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 3}{3}+\frac{42217\cdot 2}{100000})} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{3}{3}+\frac{57783\cdot 2}{100000})} \\
& \; + e^{2\pi i(\frac{151\cdot 2}{200})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 3}{3}+\frac{91117\cdot 2}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{3}{3}+\frac{2\cdot 3}{3}+\frac{2}{6})} + e^{2\pi i(\frac{2}{2})} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{3}{3}+\frac{5\cdot 2}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{11}{3})} + e^{2\pi i(\frac{13}{3})}) \\
& + \; f_O(e^{2\pi i(\frac{3.1777}{1})} + e^{2\pi i(\frac{489}{1000})} + e^{2\pi i(\frac{3.8443}{1})} + e^{2\pi i(\frac{4.1557}{1})} \\
& + e^{2\pi i(\frac{151}{100})} + e^{2\pi i(\frac{4.8223}{1})}) \\
& + \; f_{Li}(e^{2\pi i(\frac{10}{3})} + e^{2\pi i(1)} + e^{2\pi i(\frac{14}{3})}) \\
= \; & f_{Co}(1 + [-0.5 + (-0.86603)i] + [-0.5 + (0.86603)i]) \\
& + \; f_O([0.43904 + (0.89847)i] + [-0.99761 + (0.06906)i] \\
& \; + [0.55865 + (-0.8294)i] + [0.55865 + (0.8294)i] \\
& \; + [-0.99803 + (-0.06279)i] + [0.43904 + (-0.89847)i]) \\
& + \; f_{Li}([-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i]) \\
= \; & (-0.00027 + 0.00627i) f_O
\end{aligned}
$$

$$
\begin{aligned}
F_{413} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot4}{3}+\frac{1}{3}+\frac{3}{3})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot1}{3}+\frac{2\cdot3}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot4}{3}+\frac{1}{3}+\frac{8883\cdot3}{100000})} + e^{2\pi i(0+0+\frac{489\cdot3}{2000})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot1}{3}+\frac{42217\cdot3}{100000})} + e^{2\pi i(\frac{2\cdot4}{3}+\frac{1}{3}+\frac{57783\cdot3}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot3}{200})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot1}{3}+\frac{91117\cdot3}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{4}{3}+\frac{2\cdot1}{3}+\frac{3}{6})} + e^{2\pi i(0+0+\frac{3}{2})} + e^{2\pi i(\frac{2\cdot4}{3}+\frac{1}{3}+\frac{5\cdot3}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot4}{3}+\frac{1}{3}+\frac{3}{3})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot1}{3}+\frac{2\cdot3}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot4}{3}+\frac{1}{3}+\frac{8883\cdot3}{100000})} + e^{2\pi i(\frac{489\cdot3}{2000})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot1}{3}+\frac{42217\cdot3}{100000})} + e^{2\pi i(\frac{2\cdot4}{3}+\frac{1}{3}+\frac{57783\cdot3}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot3}{200})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot1}{3}+\frac{91117\cdot3}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{4}{3}+\frac{2\cdot1}{3}+\frac{3}{6})} + e^{2\pi i(\frac{3}{2})} + e^{2\pi i(\frac{2\cdot4}{3}+\frac{1}{3}+\frac{5\cdot3}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(4)} + e^{2\pi i(4)}) \\
& + \quad f_O(e^{2\pi i(\frac{3.2665}{1})} + e^{2\pi i(\frac{1467}{2000})} + e^{2\pi i(\frac{3.2665}{1})} + e^{2\pi i(\frac{4.7335}{1})} \\
& + e^{2\pi i(\frac{453}{200})} + e^{2\pi i(\frac{4.7335}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{5}{2})} + e^{2\pi i(\frac{3}{2})} + e^{2\pi i(\frac{11}{2})}) \\
= \; & f_{Co}(1+1+1) \\
& + \quad f_O([-0.10342 + (0.99464)i] + [-0.10349 + (-0.99463)i] \\
& \quad + [-0.10355 + (0.99462)i] + [-0.10355 + (-0.99462)i] \\
& \quad + [-0.09411 + (0.99556)i] + [-0.10342 + (-0.99464)i]) \\
& + \quad f_{Li}(-1 + -1 + -1) \\
= \; & 3f_{Co} + (-0.61154 + 0.00093i)f_O - 3f_{Li}
\end{aligned}
$$

$$
\begin{aligned}
F_{420} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 4}{3}+\frac{2}{3}+\frac{0}{3})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot 2}{3}+\frac{2\cdot 0}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 4}{3}+\frac{2}{3}+\frac{8883\cdot 0}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 0}{2000})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot 2}{3}+\frac{42217\cdot 0}{100000})} + e^{2\pi i(\frac{2\cdot 4}{3}+\frac{2}{3}+\frac{57783\cdot 0}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 0}{200})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot 2}{3}+\frac{91117\cdot 0}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{4}{3}+\frac{2\cdot 2}{3}+\frac{0}{6})} + e^{2\pi i(0+0+\frac{0}{2})} + e^{2\pi i(\frac{2\cdot 4}{3}+\frac{2}{3}+\frac{5\cdot 0}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 4}{3}+\frac{2}{3}+\frac{0}{3})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot 2}{3}+\frac{2\cdot 0}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 4}{3}+\frac{2}{3}+\frac{8883\cdot 0}{100000})} + e^{2\pi i(\frac{489\cdot 0}{2000})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot 2}{3}+\frac{42217\cdot 0}{100000})} + e^{2\pi i(\frac{2\cdot 4}{3}+\frac{2}{3}+\frac{57783\cdot 0}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 0}{200})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot 2}{3}+\frac{91117\cdot 0}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{4}{3}+\frac{2\cdot 2}{3}+\frac{0}{6})} + e^{2\pi i(\frac{0}{2})} + e^{2\pi i(\frac{2\cdot 4}{3}+\frac{2}{3}+\frac{5\cdot 0}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{10}{3})} + e^{2\pi i(\frac{8}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{10}{3})} + e^{2\pi i(0)} + e^{2\pi i(\frac{8}{3})} + e^{2\pi i(\frac{10}{3})} \\
& + e^{2\pi i(0)} + e^{2\pi i(\frac{8}{3})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{8}{3})} + e^{2\pi i(0)} + e^{2\pi i(\frac{10}{3})}) \\
= \; & f_{Co}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
& + \quad f_O([-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i] \\
& \quad + [-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i]) \\
& + \quad f_{Li}([-0.5 + (-0.86603)i] + 1 + [-0.5 + (0.86603)i]) \\
= \; & 0(ForbiddenReflection)
\end{aligned}
$$

$$
\begin{aligned}
F_{235} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{3}{3}+\frac{5}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 3}{3}+\frac{2\cdot 5}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 2}{3}+\frac{3}{3}+\frac{8883\cdot 5}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 5}{2000})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 3}{3}+\frac{42217\cdot 5}{100000})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{3}{3}+\frac{57783\cdot 5}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 5}{200})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 3}{3}+\frac{91117\cdot 5}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{2}{3}+\frac{2\cdot 3}{3}+\frac{5}{6})} + e^{2\pi i(0+0+\frac{5}{2})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{3}{3}+\frac{5\cdot 5}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{3}{3}+\frac{5}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 3}{3}+\frac{2\cdot 5}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 2}{3}+\frac{3}{3}+\frac{8883\cdot 5}{100000})} + e^{2\pi i(\frac{489\cdot 5}{2000})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 3}{3}+\frac{42217\cdot 5}{100000})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{3}{3}+\frac{57783\cdot 5}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 5}{200})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 3}{3}+\frac{91117\cdot 5}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{2}{3}+\frac{2\cdot 3}{3}+\frac{5}{6})} + e^{2\pi i(\frac{5}{2})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{3}{3}+\frac{5\cdot 5}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{4}{1})} + e^{2\pi i(6)}) \\
& + \quad f_O(e^{2\pi i(\frac{2.7775}{1})} + e^{2\pi i(\frac{489}{400})} + e^{2\pi i(\frac{4.7775}{1})} + e^{2\pi i(\frac{5.2225}{1})} \\
& + e^{2\pi i(\frac{151}{40})} + e^{2\pi i(\frac{7.2225}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{7}{2})} + e^{2\pi i(\frac{5}{2})} + e^{2\pi i(\frac{13}{2})}) \\
= \; & f_{Co}(1+1+1) \\
& + \quad f_O([0.17183 + (-0.98513)i] + [0.17193 + (0.98511)i] \\
& \quad + [0.17203 + (-0.98509)i] + [0.17203 + (0.98509)i] \\
& \quad + [0.15643 + (-0.98769)i] + [0.17183 + (0.98513)i]) \\
& + \quad f_{Li}(-1 + -1 + -1) \\
= \; & 3f_{Co} + (1.01608 + -0.00258i)f_O - 3f_{Li}
\end{aligned}
$$

$$
\begin{aligned}
F_{334} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{3}{3}+\frac{4}{3})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 3}{3}+\frac{2\cdot 4}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 3}{3}+\frac{3}{3}+\frac{8883\cdot 4}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 4}{2000})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 3}{3}+\frac{42217\cdot 4}{100000})} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{3}{3}+\frac{57783\cdot 4}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 4}{200})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 3}{3}+\frac{91117\cdot 4}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{3}{3}+\frac{2\cdot 3}{3}+\frac{4}{6})} + e^{2\pi i(0+0+\frac{4}{2})} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{3}{3}+\frac{5\cdot 4}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{3}{3}+\frac{4}{3})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 3}{3}+\frac{2\cdot 4}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 3}{3}+\frac{3}{3}+\frac{8883\cdot 4}{100000})} + e^{2\pi i(\frac{489\cdot 4}{2000})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 3}{3}+\frac{42217\cdot 4}{100000})} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{3}{3}+\frac{57783\cdot 4}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 4}{200})} + e^{2\pi i(\frac{3}{3}+\frac{2\cdot 3}{3}+\frac{91117\cdot 4}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{3}{3}+\frac{2\cdot 3}{3}+\frac{4}{6})} + e^{2\pi i(\frac{4}{2})} + e^{2\pi i(\frac{2\cdot 3}{3}+\frac{3}{3}+\frac{5\cdot 4}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{13}{3})} + e^{2\pi i(\frac{17}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{83883}{25000})} + e^{2\pi i(\frac{489}{500})} + e^{2\pi i(\frac{4.6887}{1})} + e^{2\pi i(\frac{5.3113}{1})} \\
& + e^{2\pi i(\frac{151}{50})} + e^{2\pi i(\frac{6.6447}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{11}{3})} + e^{2\pi i(2)} + e^{2\pi i(\frac{19}{3})}) \\
= \; & f_{Co}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
& + \quad f_O([-0.61449 + (0.78892)i] + [0.99046 + (-0.13779)i] \\
& \quad + [-0.37582 + (-0.92669)i] + [-0.37582 + (0.92669)i] \\
& \quad + [0.99211 + (0.12533)i] + [-0.61449 + (-0.78892)i]) \\
& + \quad f_{Li}([-0.5 + (-0.86603)i] + 1 + [-0.5 + (0.86603)i]) \\
= \; & (0.00194 + -0.01246i) f_O
\end{aligned}
$$

$$
\begin{aligned}
F_{145} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{4}{3}+\frac{5}{3})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot4}{3}+\frac{2\cdot5}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot1}{3}+\frac{4}{3}+\frac{8883\cdot5}{100000})} + e^{2\pi i(0+0+\frac{489\cdot5}{2000})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot4}{3}+\frac{42217\cdot5}{100000})} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{4}{3}+\frac{57783\cdot5}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot5}{200})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot4}{3}+\frac{91117\cdot5}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{1}{3}+\frac{2\cdot4}{3}+\frac{5}{6})} + e^{2\pi i(0+0+\frac{5}{2})} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{4}{3}+\frac{5\cdot5}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{4}{3}+\frac{5}{3})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot4}{3}+\frac{2\cdot5}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot1}{3}+\frac{4}{3}+\frac{8883\cdot5}{100000})} + e^{2\pi i(\frac{489\cdot5}{2000})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot4}{3}+\frac{42217\cdot5}{100000})} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{4}{3}+\frac{57783\cdot5}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot5}{200})} + e^{2\pi i(\frac{1}{3}+\frac{2\cdot4}{3}+\frac{91117\cdot5}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{1}{3}+\frac{2\cdot4}{3}+\frac{5}{6})} + e^{2\pi i(\frac{5}{2})} + e^{2\pi i(\frac{2\cdot1}{3}+\frac{4}{3}+\frac{5\cdot5}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{11}{3})} + e^{2\pi i(\frac{19}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{48883}{20000})} + e^{2\pi i(\frac{489}{400})} + e^{2\pi i(\frac{5.1109}{1})} + e^{2\pi i(\frac{97783}{20000})} \\
& + e^{2\pi i(\frac{151}{40})} + e^{2\pi i(\frac{7.5559}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{23}{6})} + e^{2\pi i(\frac{5}{2})} + e^{2\pi i(\frac{37}{6})}) \\
= \; & f_{Co}(1 + [-0.5 + (-0.86603)i] + [-0.5 + (0.86603)i]) \\
& + \quad f_O([-0.93906 + (0.34376)i] + [0.17193 + (0.98511)i] \\
& \quad + [0.7671 + (0.64153)i] + [0.7671 + (-0.64153)i] \\
& \quad + [0.15643 + (-0.98769)i] + [-0.93906 + (-0.34376)i]) \\
& + \quad f_{Li}([0.5 + (-0.86603)i] + -1 + [0.5 + (0.86603)i]) \\
= \; & (-0.01556 + -0.00258i) f_O
\end{aligned}
$$

$$
\begin{aligned}
F_{244} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{4}{3}+\frac{4}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 4}{3}+\frac{2\cdot 4}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 2}{3}+\frac{4}{3}+\frac{8883\cdot 4}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 4}{2000})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 4}{3}+\frac{42217\cdot 4}{100000})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{4}{3}+\frac{57783\cdot 4}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 4}{200})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 4}{3}+\frac{91117\cdot 4}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{2}{3}+\frac{2\cdot 4}{3}+\frac{4}{6})} + e^{2\pi i(0+0+\frac{4}{2})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{4}{3}+\frac{5\cdot 4}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{4}{3}+\frac{4}{3})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 4}{3}+\frac{2\cdot 4}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 2}{3}+\frac{4}{3}+\frac{8883\cdot 4}{100000})} + e^{2\pi i(\frac{489\cdot 4}{2000})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 4}{3}+\frac{42217\cdot 4}{100000})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{4}{3}+\frac{57783\cdot 4}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 4}{200})} + e^{2\pi i(\frac{2}{3}+\frac{2\cdot 4}{3}+\frac{91117\cdot 4}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{2}{3}+\frac{2\cdot 4}{3}+\frac{4}{6})} + e^{2\pi i(\frac{4}{2})} + e^{2\pi i(\frac{2\cdot 2}{3}+\frac{4}{3}+\frac{5\cdot 4}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(4)} + e^{2\pi i(6)}) \\
& + \quad f_O(e^{2\pi i(\frac{3.022}{1})} + e^{2\pi i(\frac{489}{500})} + e^{2\pi i(\frac{5.022}{1})} + e^{2\pi i(\frac{4.978}{1})} \\
& + e^{2\pi i(\frac{151}{50})} + e^{2\pi i(\frac{6.978}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{4}{1})} + e^{2\pi i(2)} + e^{2\pi i(6)}) \\
= \; & f_{Co}(1+1+1) \\
& + \quad f_O([0.99047 + (0.13771)i] + [0.99046 + (-0.13779)i] \\
& \quad + [0.99045 + (0.13787)i] + [0.99045 + (-0.13787)i] \\
& \quad + [0.99211 + (0.12533)i] + [0.99047 + (-0.13771)i]) \\
& + \quad f_{Li}(1+1+1) \\
= \; & 3f_{Co} + (5.94442 + -0.01246i)f_O + 3f_{Li}
\end{aligned}
$$

$$
\begin{aligned}
F_{431} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot4}{3}+\frac{3}{3}+\frac{1}{3})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot3}{3}+\frac{2\cdot1}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot4}{3}+\frac{3}{3}+\frac{8883\cdot1}{100000})} + e^{2\pi i(0+0+\frac{489\cdot1}{2000})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot3}{3}+\frac{42217\cdot1}{100000})} + e^{2\pi i(\frac{2\cdot4}{3}+\frac{3}{3}+\frac{57783\cdot1}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot1}{200})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot3}{3}+\frac{91117\cdot1}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{4}{3}+\frac{2\cdot3}{3}+\frac{1}{6})} + e^{2\pi i(0+0+\frac{1}{2})} + e^{2\pi i(\frac{2\cdot4}{3}+\frac{3}{3}+\frac{5\cdot1}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot4}{3}+\frac{3}{3}+\frac{1}{3})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot3}{3}+\frac{2\cdot1}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot4}{3}+\frac{3}{3}+\frac{8883\cdot1}{100000})} + e^{2\pi i(\frac{489\cdot1}{2000})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot3}{3}+\frac{42217\cdot1}{100000})} + e^{2\pi i(\frac{2\cdot4}{3}+\frac{3}{3}+\frac{57783\cdot1}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot1}{200})} + e^{2\pi i(\frac{4}{3}+\frac{2\cdot3}{3}+\frac{91117\cdot1}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{4}{3}+\frac{2\cdot3}{3}+\frac{1}{6})} + e^{2\pi i(\frac{1}{2})} + e^{2\pi i(\frac{2\cdot4}{3}+\frac{3}{3}+\frac{5\cdot1}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(4)} + e^{2\pi i(\frac{4}{1})}) \\
& + \quad f_O(e^{2\pi i(\frac{90699}{24151})} + e^{2\pi i(\frac{489}{2000})} + e^{2\pi i(\frac{78306}{20851})} + e^{2\pi i(\frac{88502}{20851})} \\
& + e^{2\pi i(\frac{151}{200})} + e^{2\pi i(\frac{4.2445}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{7}{2})} + e^{2\pi i(\frac{1}{2})} + e^{2\pi i(\frac{9}{2})}) \\
= \; & f_{Co}(1+1+1) \\
& + \quad f_O([0.03453 + (-0.9994)i] + [0.03455 + (0.9994)i] \\
& \quad + [0.03457 + (-0.9994)i] + [0.03457 + (0.9994)i] \\
& \quad + [0.03141 + (-0.99951)i] + [0.03453 + (0.9994)i]) \\
& + \quad f_{Li}(-1 + -1 + -1) \\
= \; & 3f_{Co} + (0.20416 + -0.0001i)f_O - 3f_{Li}
\end{aligned}
$$

$$
\begin{aligned}
F_{051} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{5}{3}+\frac{1}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 5}{3}+\frac{2\cdot 1}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{5}{3}+\frac{8883\cdot 1}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 1}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 5}{3}+\frac{42217\cdot 1}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{5}{3}+\frac{57783\cdot 1}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 1}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 5}{3}+\frac{91117\cdot 1}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 5}{3}+\frac{1}{6})} + e^{2\pi i(0+0+\frac{1}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{5}{3}+\frac{5\cdot 1}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{5}{3}+\frac{1}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 5}{3}+\frac{2\cdot 1}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{5}{3}+\frac{8883\cdot 1}{100000})} + e^{2\pi i(\frac{489\cdot 1}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 5}{3}+\frac{42217\cdot 1}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{5}{3}+\frac{57783\cdot 1}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 1}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 5}{3}+\frac{91117\cdot 1}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 5}{3}+\frac{1}{6})} + e^{2\pi i(\frac{1}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{5}{3}+\frac{5\cdot 1}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2}{1})} + e^{2\pi i(\frac{4}{1})}) \\
& + \quad f_O(e^{2\pi i(\frac{42397}{24151})} + e^{2\pi i(\frac{489}{2000})} + e^{2\pi i(\frac{78306}{20851})} + e^{2\pi i(\frac{46800}{20851})} \\
& + e^{2\pi i(\frac{151}{200})} + e^{2\pi i(\frac{4.2445}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{7}{2})} + e^{2\pi i(\frac{1}{2})} + e^{2\pi i(\frac{5}{2})}) \\
= \; & f_{Co}(1+1+1) \\
& + \quad f_O([0.03453 + (-0.9994)i] + [0.03455 + (0.9994)i] \\
& \quad + [0.03457 + (-0.9994)i] + [0.03457 + (0.9994)i] \\
& \quad + [0.03141 + (-0.99951)i] + [0.03453 + (0.9994)i]) \\
& + \quad f_{Li}(-1 + -1 + -1) \\
= \; & 3f_{Co} + (0.20416 + -0.0001i)f_O - 3f_{Li}
\end{aligned}
$$

$$
\begin{aligned}
F_{510} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot5}{3}+\frac{1}{3}+\frac{0}{3})} + e^{2\pi i(\frac{5}{3}+\frac{2\cdot1}{3}+\frac{2\cdot0}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot5}{3}+\frac{1}{3}+\frac{8883\cdot0}{100000})} + e^{2\pi i(0+0+\frac{489\cdot0}{2000})} + e^{2\pi i(\frac{5}{3}+\frac{2\cdot1}{3}+\frac{42217\cdot0}{100000})} + e^{2\pi i(\frac{2\cdot5}{3}+\frac{1}{3}+\frac{57783\cdot0}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot0}{200})} + e^{2\pi i(\frac{5}{3}+\frac{2\cdot1}{3}+\frac{91117\cdot0}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{5}{3}+\frac{2\cdot1}{3}+\frac{0}{6})} + e^{2\pi i(0+0+\frac{0}{2})} + e^{2\pi i(\frac{2\cdot5}{3}+\frac{1}{3}+\frac{5\cdot0}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot5}{3}+\frac{1}{3}+\frac{0}{3})} + e^{2\pi i(\frac{5}{3}+\frac{2\cdot1}{3}+\frac{2\cdot0}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot5}{3}+\frac{1}{3}+\frac{8883\cdot0}{100000})} + e^{2\pi i(\frac{489\cdot0}{2000})} + e^{2\pi i(\frac{5}{3}+\frac{2\cdot1}{3}+\frac{42217\cdot0}{100000})} + e^{2\pi i(\frac{2\cdot5}{3}+\frac{1}{3}+\frac{57783\cdot0}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot0}{200})} + e^{2\pi i(\frac{5}{3}+\frac{2\cdot1}{3}+\frac{91117\cdot0}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{5}{3}+\frac{2\cdot1}{3}+\frac{0}{6})} + e^{2\pi i(\frac{0}{2})} + e^{2\pi i(\frac{2\cdot5}{3}+\frac{1}{3}+\frac{5\cdot0}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{11}{3})} + e^{2\pi i(\frac{7}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{11}{3})} + e^{2\pi i(0)} + e^{2\pi i(\frac{7}{3})} + e^{2\pi i(\frac{11}{3})} \\
& + e^{2\pi i(0)} + e^{2\pi i(\frac{7}{3})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{7}{3})} + e^{2\pi i(0)} + e^{2\pi i(\frac{11}{3})}) \\
= \; & f_{Co}(1 + [-0.5 + (-0.86603)i] + [-0.5 + (0.86603)i]) \\
& + \quad f_O([-0.5 + (-0.86603)i] + 1 + [-0.5 + (0.86603)i] \\
& \quad + [-0.5 + (-0.86603)i] + 1 + [-0.5 + (0.86603)i]) \\
& + \quad f_{Li}([-0.5 + (0.86603)i] + 1 + [-0.5 + (-0.86603)i]) \\
= \; & 0(ForbiddenReflection)
\end{aligned}
$$

$$
\begin{aligned}
F_{512} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 5}{3}+\frac{1}{3}+\frac{2}{3})} + e^{2\pi i(\frac{5}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 2}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 5}{3}+\frac{1}{3}+\frac{8883\cdot 2}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 2}{2000})} + e^{2\pi i(\frac{5}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 2}{100000})} + e^{2\pi i(\frac{2\cdot 5}{3}+\frac{1}{3}+\frac{57783\cdot 2}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 2}{200})} + e^{2\pi i(\frac{5}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 2}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{5}{3}+\frac{2\cdot 1}{3}+\frac{2}{6})} + e^{2\pi i(0+0+\frac{2}{2})} + e^{2\pi i(\frac{2\cdot 5}{3}+\frac{1}{3}+\frac{5\cdot 2}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 5}{3}+\frac{1}{3}+\frac{2}{3})} + e^{2\pi i(\frac{5}{3}+\frac{2\cdot 1}{3}+\frac{2\cdot 2}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 5}{3}+\frac{1}{3}+\frac{8883\cdot 2}{100000})} + e^{2\pi i(\frac{489\cdot 2}{2000})} + e^{2\pi i(\frac{5}{3}+\frac{2\cdot 1}{3}+\frac{42217\cdot 2}{100000})} + e^{2\pi i(\frac{2\cdot 5}{3}+\frac{1}{3}+\frac{57783\cdot 2}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 2}{200})} + e^{2\pi i(\frac{5}{3}+\frac{2\cdot 1}{3}+\frac{91117\cdot 2}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{5}{3}+\frac{2\cdot 1}{3}+\frac{2}{6})} + e^{2\pi i(\frac{2}{2})} + e^{2\pi i(\frac{2\cdot 5}{3}+\frac{1}{3}+\frac{5\cdot 2}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{13}{3})} + e^{2\pi i(\frac{11}{3})}) \\
& + \quad f_O(e^{2\pi i(\frac{3.8443}{1})} + e^{2\pi i(\frac{489}{1000})} + e^{2\pi i(\frac{3.1777}{1})} + e^{2\pi i(\frac{4.8223}{1})} \\
& + e^{2\pi i(\frac{151}{100})} + e^{2\pi i(\frac{4.1557}{1})}) \\
& + \quad f_{Li}(e^{2\pi i(\frac{8}{3})} + e^{2\pi i(1)} + e^{2\pi i(\frac{16}{3})}) \\
= \; & f_{Co}(1 + [-0.5 + (0.86603)i] + [-0.5 + (-0.86603)i]) \\
& + \quad f_O([0.55858 + (-0.82945)i] + [-0.99761 + (0.06906)i] \\
& \quad + [0.43896 + (0.89851)i] + [0.43896 + (-0.89851)i] \\
& \quad + [-0.99803 + (-0.06279)i] + [0.55858 + (0.82945)i]) \\
& + \quad f_{Li}([-0.5 + (-0.86603)i] + 1 + [-0.5 + (0.86603)i]) \\
= \; & (-0.00056 + 0.00627i) f_O
\end{aligned}
$$

$$
\begin{aligned}
F_{000} = \; & f_{Co}(e^{2\pi i(0+0+0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{0}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{2\cdot 0}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{8883\cdot 0}{100000})} + e^{2\pi i(0+0+\frac{489\cdot 0}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{42217\cdot 0}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{57783\cdot 0}{100000})} \\
& \quad + e^{2\pi i(0+0+\frac{151\cdot 0}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{91117\cdot 0}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{0}{6})} + e^{2\pi i(0+0+\frac{0}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{5\cdot 0}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{0}{3})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{2\cdot 0}{3})}) \\
& + f_O(e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{8883\cdot 0}{100000})} + e^{2\pi i(\frac{489\cdot 0}{2000})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{42217\cdot 0}{100000})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{57783\cdot 0}{100000})} \\
& \quad + e^{2\pi i(\frac{151\cdot 0}{200})} + e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{91117\cdot 0}{100000})}) \\
& + f_{Li}(e^{2\pi i(\frac{0}{3}+\frac{2\cdot 0}{3}+\frac{0}{6})} + e^{2\pi i(\frac{0}{2})} + e^{2\pi i(\frac{2\cdot 0}{3}+\frac{0}{3}+\frac{5\cdot 0}{6})}) \\
= \; & f_{Co}(e^{2\pi i(0)} + e^{2\pi i(0)} + e^{2\pi i(0)}) \\
& + \quad f_O(e^{2\pi i(0)} + e^{2\pi i(0)} + e^{2\pi i(0)} + e^{2\pi i(0)} \\
& + e^{2\pi i(0)} + e^{2\pi i(0)}) \\
& + \quad f_{Li}(e^{2\pi i(0)} + e^{2\pi i(0)} + e^{2\pi i(0)}) \\
= \; & f_{Co}(1+1+1) \\
& + \quad f_O(1+1+1+1+1+1) \\
& + \quad f_{Li}(1+1+1) \\
= \; & 3f_{Co} + 6f_O + 3f_{Li}
\end{aligned}
$$