

$$\int D\chi \overline{\text{dar}(f; -3\varepsilon)\Phi_k[\chi]} \cdot \text{dar}(g; 2\varepsilon)\Phi_j[\chi]$$

$$= \left[\prod_n \int d\chi(n\varepsilon) \right] \overline{\text{dar}(f; -3\varepsilon)\Phi_k[\chi]} \cdot \text{dar}(g; 2\varepsilon)\Phi_j[\chi]$$

$$\begin{array}{l}
\delta_{jk} \cdots \cdots \cdots {}_{5\varepsilon} \langle k, 6\varepsilon | j, 6\varepsilon \rangle_{5\varepsilon} \\
{}_{4\varepsilon} \langle k, 5\varepsilon | j, 5\varepsilon \rangle_{4\varepsilon} \\
{}_{3\varepsilon} \langle k, 4\varepsilon | j, 4\varepsilon \rangle_{3\varepsilon} \\
{}_{2\varepsilon} \langle k, 3\varepsilon | j, 3\varepsilon \rangle_{2\varepsilon} \\
{}_{1\varepsilon} \langle k, 2\varepsilon | j, 1\varepsilon \rangle_{1\varepsilon} \\
{}_0 \langle k, 1\varepsilon | j, 0\varepsilon \rangle_0 \\
{}_{-1\varepsilon} \langle k, 0\varepsilon | j, -1\varepsilon \rangle_{-1\varepsilon} \\
{}_{-2\varepsilon} \langle k, -1\varepsilon | j, -2\varepsilon \rangle_{-2\varepsilon} \\
{}_{-3\varepsilon} \langle k, -2\varepsilon | j, -3\varepsilon \rangle_{-3\varepsilon} \\
{}_{-4\varepsilon} \langle k, -4\varepsilon | j, -4\varepsilon \rangle_{-4\varepsilon} \cdots \cdots \delta_{jk} \\
{}_{-5\varepsilon} \langle k, -5\varepsilon | j, -5\varepsilon \rangle_{-5\varepsilon} \cdots \cdots \delta_{jk}
\end{array}
\left. \begin{array}{l}
\langle g | j, 2\varepsilon \rangle \\
\langle j, (n+1)\varepsilon | j, n\varepsilon \rangle
\end{array} \right\}
\begin{array}{l}
\langle k, -3\varepsilon | f \rangle
\end{array}$$