## qcmacros

 $a_p^\dagger$ 

 $\tilde{a}_{rs}^{pq}$ 

 $\overline{H}$ 

 $\hat{H}$ 

 $\Psi^{(2)}$ 

 $\langle \Psi |$ 

 $|\Psi 
angle$ 

 $\langle \Psi | \hat{O} | \Psi \rangle$ 

 $|vac\rangle$ 

 $: a_p a_q^{\dagger} a_r^{\dagger} a_s a_t^{\dagger}:$ 

 $a_p a_q^\dagger a_r^\dagger a_s a_t^\dagger a_s^\dagger$ 

 $a_p a_q^{\dagger} a_r a_s^{\dagger} a_t a_u^{\dagger}$ 

 $a_p^{\bullet} a_q^{\dagger \circ} a_r^{\bullet \bullet} a_s^{\dagger \bullet} a_t^{\circ} a_u^{\dagger \bullet \bullet}$ 

 $\langle \langle \hat{A}; \hat{B} \rangle \rangle_{\omega} = \frac{1}{\hbar} \sum_{k \neq 0} \left( \frac{\langle \Psi_0 | \hat{A} | \Psi_k \rangle \langle \Psi_k | \hat{B} | \Psi_0 \rangle}{\omega - \omega_k} - \frac{\langle \Psi_0 | \hat{B} | \Psi_k \rangle \langle \Psi_k | \hat{A} | \Psi_0 \rangle}{\omega + \omega_k} \right)$