$$\frac{d\sigma}{d\Omega} = \frac{\mu_i \mu_f}{(4\pi\hbar^2)^2} \frac{k_f}{k_i} \left| T^{(1)}(\theta) + T^{(2)}_{succ}(\theta) - T^{(2)}_{NO}(\theta) \right|^2$$

$$\phi_t(\mathbf{r}_{p1}, \sigma_1, \mathbf{r}_{p2}, \sigma_2)\chi_{m_s}^{1/2}(\sigma_p)\psi_A(\xi_A)\chi_{tA}^{(+)}(\mathbf{r}_{tA}) \qquad \chi_{m_s}^{1/2}(\sigma_p)\psi_B(\xi_B)\chi_{pB}^{(-)}(\mathbf{r}_{pB})$$

$$\left(\phi_d(\mathbf{r}_{p1}, \sigma_1)\phi_d(\mathbf{r}_{p2}, \sigma_2)\chi_{tA}^{(+)}(\mathbf{r}_{tA}) \right)$$

$$\Psi_{A+2}(\xi_A, \mathbf{r}_{A1}, \sigma_1, \mathbf{r}_{A2}, \sigma_2) = \psi_A(\xi_A)\sum_{l_i, j_i}[\phi_{l_i, j_i}^{A+2}(\mathbf{r}_{A1}, \sigma_1, \mathbf{r}_{A2}, \sigma_2)]_0^0$$

$$= \psi_A(\xi_A)\sum_{nm} a_{nm} \left| \varphi_{n,l_i,j_i}^{A+2}(\mathbf{r}_{A1}, \sigma_1)\varphi_{m,l_i,j_i}^{A+2}(\mathbf{r}_{A2}, \sigma_2) \right|_0^0$$

$$T^{(1)} = 2\sum_{\sigma_1, \sigma_2, \sigma_p} \int d\xi_A d\mathbf{r}_{tA} d\mathbf{r}_{p1} d\mathbf{r}_{A2}\psi_A(\xi_A)\sum_{l_i, j_i}[\phi_{l_i, j_i}^{A+2}(\mathbf{r}_{A1}, \sigma_1, \mathbf{r}_{A2}, \sigma_2)]_0^{0*}$$

$$\times \chi_{pB}^{(-)*}(\mathbf{r}_{pB})\chi_{m_s}^{1/2*}(\sigma_p)v(r_{p1})\phi_t(\mathbf{r}_{p1}, \sigma_1, \mathbf{r}_{p2}, \sigma_2)\chi_{m_s}^{1/2}(\sigma_p)\psi_A(\xi_A)\chi_{tA}^{(+)}(\mathbf{r}_{tA})$$

$$= 2\sum_{\sigma_1, \sigma_2, \sigma_p} \int d\mathbf{r}_{tA} d\mathbf{r}_{p1} d\mathbf{r}_{A2}\sum_{l_i, j_i}[\phi_{l_i, j_i}^{A+2}(\mathbf{r}_{A1}, \sigma_1, \mathbf{r}_{A2}, \sigma_2)]_0^{0*}$$

$$\times \chi_{pB}^{(-)*}(\mathbf{r}_{pB})\chi_{m_s}^{1/2*}(\sigma_p)v(r_{p1})\phi_t(\mathbf{r}_{p1}, \sigma_1, \mathbf{r}_{p2}, \sigma_2)\chi_{m_s}^{1/2}(\sigma_p)\chi_{tA}^{(+)}(\mathbf{r}_{tA})$$