

[illegible]

|                                | $\omega_1^{\#1} + \alpha\beta$      | $\omega_1^{\#2} + \alpha\beta$  | $f_1^{\#1} + \alpha\beta$            | $\omega_1^{\#1} - \alpha$ | $\omega_1^{\#2} - \alpha$     | $f_1^{\#1} - \alpha$ | $f_1^{\#2} - \alpha$         |
|--------------------------------|-------------------------------------|---------------------------------|--------------------------------------|---------------------------|-------------------------------|----------------------|------------------------------|
| $\omega_1^{\#1} + \alpha\beta$ | $\frac{1}{6}(t_1 + 4t_2)$           | $-\frac{t_1 - 2t_2}{3\sqrt{2}}$ | $-\frac{i k(t_1 - 2t_2)}{3\sqrt{2}}$ | 0                         | 0                             | 0                    | 0                            |
| $\omega_1^{\#2} + \alpha\beta$ | $-\frac{t_1 - 2t_2}{3\sqrt{2}}$     | $\frac{t_1 + t_2}{3}$           | $\frac{1}{3}i k(t_1 + t_2)$          | 0                         | 0                             | 0                    | 0                            |
| $f_1^{\#1} + \alpha\beta$      | $\frac{i k(t_1 - 2t_2)}{3\sqrt{2}}$ | $-\frac{1}{3}i k(t_1 + t_2)$    | $\frac{1}{3}k^2(t_1 + t_2)$          | 0                         | 0                             | 0                    | 0                            |
| $\omega_1^{\#1} - \alpha$      | 0                                   | 0                               | 0                                    | $\frac{t_1}{6}$           | $\frac{t_1}{3\sqrt{2}}$       | 0                    | $\frac{i k t_1}{3}$          |
| $\omega_1^{\#2} - \alpha$      | 0                                   | 0                               | 0                                    | $\frac{t_1}{3\sqrt{2}}$   | $\frac{t_1}{3}$               | 0                    | $\frac{1}{3}i\sqrt{2} k t_1$ |
| $f_1^{\#1} - \alpha$           | 0                                   | 0                               | 0                                    | 0                         | 0                             | 0                    | 0                            |
| $f_1^{\#2} - \alpha$           | 0                                   | 0                               | 0                                    | $-\frac{1}{3}i k t_1$     | $-\frac{1}{3}i\sqrt{2} k t_1$ | 0                    | $\frac{2k^2 t_1}{3}$         |

|  | $\omega_{2^+}^{\#1} \alpha \beta$ | $f_{2^+}^{\#1} \alpha \beta$ | $\omega_{2^+}^{\#1} \alpha \beta \chi$ |
|--|-----------------------------------|------------------------------|--|
| $\omega_{2^+}^{\#1} \dagger \alpha \beta$      | $\frac{t_1}{2}$                   | $-\frac{i k t_1}{\sqrt{2}}$  | 0                                      |
| $f_{2^+}^{\#1} \dagger \alpha \beta$           | $\frac{i k t_1}{\sqrt{2}}$        | $k^2 t_1$                    | 0                                      |
| $\omega_{2^+}^{\#1} \dagger \alpha \beta \chi$ | 0                                 | 0                            | $\frac{t_1}{2}$                        |

|                           |                  |             |             |                  |
|---------------------------|------------------|-------------|-------------|------------------|
| $\omega_0^{\#1} \uparrow$ | $\omega_0^{\#1}$ | $f_+^{\#1}$ | $f_+^{\#2}$ | $\omega_0^{\#1}$ |
| $f_0^{\#1} \uparrow$      | 0                | 0           | 0           | 0                |
| $f_0^{\#2} \uparrow$      | 0                | 0           | 0           | 0                |
| $\omega_0^{\#1} \uparrow$ | 0                | 0           | 0           | $k^2 r_2 + t_2$  |

|                                |                                      |                              |                                       |                                    |                 |
|--------------------------------|--------------------------------------|------------------------------|---------------------------------------|------------------------------------|-----------------|
| $\sigma_2^{\#1} + \alpha\beta$ | $-\frac{2}{(1+2k^2)^2 t_1}$          | $\tau_2^{\#1} + \alpha\beta$ | $-\frac{2i\sqrt{2}k}{(1+2k^2)^2 t_1}$ | $\sigma_2^{\#1} - \alpha\beta\chi$ | 0               |
| $\sigma_2^{\#1} + \alpha\beta$ | $\frac{2i\sqrt{2}k}{(1+2k^2)^2 t_1}$ | $\tau_2^{\#1} + \alpha\beta$ | $\frac{4k^2}{(1+2k^2)^2 t_1}$         | $\sigma_2^{\#1} - \alpha\beta\chi$ | 0               |
| $\sigma_2^{\#1} + \alpha\beta$ | 0                                    | $\tau_2^{\#1} + \alpha\beta$ | 0                                     | $\sigma_2^{\#1} - \alpha\beta\chi$ | $\frac{2}{t_1}$ |