* Rank 0 tensor.

$$[G]$$

$$G = G_s^{(1)}$$

* Rank 1 tensor. * Rank 2 tensor (s).

$$\begin{bmatrix} G_{xx} & 0 & 0 \\ 0 & G_{xx} & 0 \\ 0 & 0 & G_{zz} \end{bmatrix}$$

$$G_{xx} = -G_{du}^{(1)} + G_s^{(1)}$$
$$G_{zz} = 2G_{du}^{(1)} + G_s^{(1)}$$

* Rank 2 tensor (a). * Rank 3 tensor (s).

$$\begin{bmatrix} G_{xxx} & 0 & 0 \\ -G_{xxx} & 0 & 0 \\ 0 & 0 & 0 \\ G_{yzx} & 0 & 0 \\ 0 & -G_{yzx} & 0 \\ 0 & -G_{xxx} & 0 \end{bmatrix}$$

$$G_{xxx} = G_{f2}^{(1)}$$
$$G_{yzx} = -3Q_{du}^{(1)}$$

* Rank 3 tensor (a).

$$\begin{bmatrix} G_{yzx} & 0 & 0 \\ 0 & G_{yzx} & 0 \\ 0 & 0 & G_{xyz} \end{bmatrix}$$

$$G_{yzx} = -Q_{du}^{(2)} + Q_s^{(1)}$$
$$G_{xyz} = 2Q_{du}^{(2)} + Q_s^{(1)}$$

* Rank 4 tensor (sss).

$$\begin{bmatrix} G_{xxxx} & G_{xxyy} & G_{xxzz} & G_{xxyz} & 0 & 0 \\ G_{xxyy} & G_{xxxx} & G_{xxzz} & -G_{xxyz} & 0 & 0 \\ G_{xxzz} & G_{xxzz} & G_{zzzz} & 0 & 0 & 0 \\ G_{xxyz} & -G_{xxyz} & 0 & G_{yzyz} & 0 & 0 \\ 0 & 0 & 0 & 0 & G_{yzyz} & G_{xxyz} \\ 0 & 0 & 0 & 0 & G_{xxyz} & \frac{G_{xxxx}}{2} - \frac{G_{xxyy}}{2} \end{bmatrix}$$

$$G_{xxxx} = -2G_{du}^{(1)} - 4G_{du}^{(2)} + 3G_{g0}^{(1)} + G_s^{(1)} + 2G_s^{(2)}$$
$$G_{xxyy} = -2G_{du}^{(1)} + G_{g0}^{(1)} + G_s^{(1)}$$
$$G_{xxzz} = G_{du}^{(1)} - 4G_{g0}^{(1)} + G_s^{(1)}$$
$$G_{xxyz} = G_{gb}^{(1)}$$
$$G_{zzzz} = 4G_{du}^{(1)} + 8G_{du}^{(2)} + 8G_{g0}^{(1)} + G_s^{(1)} + 2G_s^{(2)}$$
$$G_{yzyz} = G_{du}^{(2)} - 4G_{g0}^{(1)} + G_s^{(2)}$$

* Rank 4 tensor (ssa).

$$\begin{bmatrix} 0 & 0 & G_{xxzz} & G_{xxyz} & 0 & 0 \\ 0 & 0 & G_{xxzz} & -G_{xxyz} & 0 & 0 \\ -G_{xxzz} & -G_{xxzz} & 0 & 0 & 0 & 0 \\ -G_{xxyz} & G_{xxyz} & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -G_{xxyz} \\ 0 & 0 & 0 & 0 & G_{xxyz} & 0 \end{bmatrix}$$

$G_{xxzz} = 3G_{du}^{(3)}$
$G_{xxyz} = 2Q_{f2}^{(1)}$

* Rank 4 tensor (aas).

$$\begin{bmatrix} G_{yzyz} & 0 & 0 \\ 0 & G_{yzyz} & 0 \\ 0 & 0 & G_{xyxy} \end{bmatrix}$$

$G_{yzyz} = -2G_{du}^{(4)} + G_{s}^{(3)}$
$G_{xyxy} = 4G_{du}^{(4)} + G_{s}^{(3)}$

* Rank 4 tensor (aaa). * Rank 4 tensor (sa).

$$\begin{bmatrix} G_{xxyz} & 0 & 0 \\ -G_{xxyz} & 0 & 0 \\ 0 & 0 & 0 \\ G_{yzyz} & 0 & 0 \\ 0 & -G_{yzyz} & 0 \\ 0 & -G_{xxyz} & 0 \end{bmatrix}$$

$G_{xxyz} = Q_{f2}^{(2)}$
$G_{yzyz} = -3G_{du}^{(5)}$

* Rank 4 tensor (as).

$$\begin{bmatrix} G_{yzxx} & -G_{yzxx} & 0 & G_{yzyz} & 0 & 0 \\ 0 & 0 & 0 & 0 & -G_{yzyz} & -G_{yzxx} \\ 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}$$

$G_{yzxx} = Q_{f2}^{(3)}$
$G_{yzyz} = -3G_{du}^{(6)}$

* Rank 4 tensor (s).

$$\begin{bmatrix} G_{xxxx} & G_{xxyy} & G_{xxzz} & G_{xxyz} & 0 & 0 & G_{xxzy} & 0 & 0 \\ G_{xxyy} & G_{xxxx} & G_{xxzz} & -G_{xxyz} & 0 & 0 & -G_{xxzy} & 0 & 0 \\ G_{zzxx} & G_{zzxx} & G_{zzzz} & 0 & 0 & 0 & 0 & 0 & 0 \\ G_{yzxx} & -G_{yzxx} & 0 & G_{yzyz} & 0 & 0 & G_{yzzy} & 0 & 0 \\ 0 & 0 & 0 & 0 & G_{yzzy} & G_{yzxx} & 0 & G_{yzyz} & G_{yzxx} \\ 0 & 0 & 0 & 0 & G_{xxzy} & \frac{G_{xxxx}}{2} - \frac{G_{xxyy}}{2} & 0 & G_{xxyz} & \frac{G_{xxxx}}{2} - \frac{G_{xxyy}}{2} \end{bmatrix}$$

$$G_{xxxx} = -2G_{du}^{(1)} - 4G_{du}^{(2)} + 3G_{g0}^{(1)} + G_s^{(1)} + 2G_s^{(2)}$$
$$G_{xxyy} = -2G_{du}^{(1)} + G_{g0}^{(1)} + G_s^{(1)}$$
$$G_{xxzz} = G_{du}^{(1)} + 3G_{du}^{(3)} - 4G_{g0}^{(1)} + G_s^{(1)}$$
$$G_{xxyz} = G_{gb}^{(1)} + 2Q_{f2}^{(1)} + Q_{f2}^{(2)}$$
$$G_{xxzy} = G_{gb}^{(1)} + 2Q_{f2}^{(1)} - Q_{f2}^{(2)}$$
$$G_{zzxx} = G_{du}^{(1)} - 3G_{du}^{(3)} - 4G_{g0}^{(1)} + G_s^{(1)}$$
$$G_{zzzz} = 4G_{du}^{(1)} + 8G_{du}^{(2)} + 8G_{g0}^{(1)} + G_s^{(1)} + 2G_s^{(2)}$$
$$G_{yzxx} = G_{gb}^{(1)} - 2Q_{f2}^{(1)}$$
$$G_{yzyz} = G_{du}^{(2)} - 3G_{du}^{(5)} - 4G_{g0}^{(1)} + G_s^{(2)}$$
$$G_{yzzy} = G_{du}^{(2)} + 3G_{du}^{(5)} - 4G_{g0}^{(1)} + G_s^{(2)}$$

* Rank 4 tensor (a).

$$\begin{bmatrix} G_{yzxx} & -G_{yzxx} & 0 & G_{yzyz} & 0 & 0 & G_{yzzy} & 0 & 0 \\ 0 & 0 & 0 & 0 & -G_{yzzy} & -G_{yzxx} & 0 & -G_{yzyz} & -G_{yzxx} \\ 0 & 0 & 0 & 0 & 0 & G_{xyxy} & 0 & 0 & -G_{xyxy} \end{bmatrix}$$

$$G_{yzxx} = Q_{f2}^{(3)}$$
$$G_{yzyz} = -2G_{du}^{(4)} - 3G_{du}^{(6)} + G_s^{(3)}$$
$$G_{yzzy} = 2G_{du}^{(4)} - 3G_{du}^{(6)} - G_s^{(3)}$$
$$G_{xyxy} = 4G_{du}^{(4)} + G_s^{(3)}$$

* Rank 4 tensor (t).

$$\begin{bmatrix} G_{xxxx} & 0 & 0 \\ 0 & G_{xxxx} & G_{yyyz} \\ 0 & 0 & G_{zzzz} \\ 0 & G_{yyyz} & G_{yyzz} \\ G_{zzxx} & 0 & 0 \\ 0 & G_{xxyy} & -G_{yyyz} \\ 0 & G_{yzzy} & 0 \\ 0 & -G_{yyyz} & -\frac{G_{xxxx}}{2} + \frac{3G_{xxyy}}{2} + G_{yyzz} - G_{yzzy} + G_{zzxx} \\ \frac{G_{xxxx}}{2} - \frac{G_{xxyy}}{2} & 0 & 0 \\ -G_{yyyz} & 0 & 0 \end{bmatrix}$$

$$G_{xxxx} = -2G_{du}^{(1)} - 4G_{du}^{(2)} + 3G_{g0}^{(1)} + 3G_s^{(1)}$$
$$G_{yyyz} = -G_{gb}^{(1)}$$
$$G_{zzzz} = 4G_{du}^{(1)} + 8G_{du}^{(2)} + 8G_{g0}^{(1)} + 3G_s^{(1)}$$
$$G_{yyzz} = G_{du}^{(1)} + 3G_{du}^{(3)} - 4G_{g0}^{(1)} + G_s^{(1)}$$
$$G_{zzxx} = G_{du}^{(1)} - 3G_{du}^{(3)} - 4G_{g0}^{(1)} + G_s^{(1)}$$
$$G_{xxyy} = -2G_{du}^{(1)} + G_{g0}^{(1)} + G_s^{(1)}$$
$$G_{yzzy} = G_{du}^{(2)} + 3G_{du}^{(5)} - 4G_{g0}^{(1)} + G_s^{(1)}$$