$$\Rightarrow a_{m_1}-1 > \cdots a_{m_2}-1 > \cdots > \underset{\substack{\uparrow \\ m_j}}{a_{m_j}-1} > \cdots \underset{\substack{\uparrow \\ m_{j+1}}}{a_\alpha -1} > \cdots \underset{\substack{\uparrow \\ m_{j+2}}}{a_{m_{(j+2)}}} > \cdots > \cdots a_{m_\ell}$$

$$\Rightarrow a_1 - 1 \geq \cdots a_{m_1}-1 \geq \cdots \geq a_{m_j}-1 \geq a_{m_{j+1}}-1 \geq a_{\alpha+1} \geq a_\alpha - 1 \geq \cdots$$

$$a_{m_j}-1 \geq a_{(m_j+1)}-1 \geq \cdots \geq a_{\alpha+1}-1 \geq a_\alpha - 1 \geq a_{m_{(j+1)}}-1 \geq$$

$$a_{m_{(j+1)}+1} \geq \cdots \geq a_{m_{(j+2)}} > \cdots \cdots > a_k .$$

One more thing.

If $a_\alpha = a_{\alpha+1}$, and $a_\alpha + b_\beta + c_\gamma \geq 2(n-k)+1$,

$a_{\alpha+1} + b_\beta + c_\gamma \geq 2(n-k)+1$.

$$\Rightarrow \#(\sigma_a \cdot \sigma_b \cdot \sigma_c)_{G(k,n)} = \#(\sigma_{a^*} \cdot \sigma_{b^*} \cdot \sigma_{c^*})_{G(n-k,n)}$$

$$= \#(\sigma_{a^* - a^*_{a_\alpha}} \cdot \sigma_{b^* - b^*_{b_\beta}} \cdot \sigma_{c^* - c^*_{c_\gamma}})_{G(n-k-1,n-1)} \quad \text{if}$$

By Reduction Formula I $\quad a^*_{a_\alpha} + b^*_{b_\beta} + c^*_{c_\gamma} = n-(n-k)$

and $\quad a_{\alpha+1} + b_\beta + c_\gamma = 2(n-k)+1$

But. $\quad a^*_{a_\alpha} \geq \alpha \quad b^*_{b_\beta} \geq \beta \quad c^*_{c_\gamma} \geq \gamma$.

$$\Rightarrow \underset{\substack{\parallel \\ a^*_{a_\alpha}}}{a^*_{a_{\alpha+1}}} + b^*_{b_\beta} + c^*_{c_\gamma} \geq \alpha + 1 + \beta + \gamma = k+1$$

$$\Rightarrow a^*_{a_\alpha} + b^*_{b_\beta} + c^*_{c_\gamma} > n-(n-k)$$

$$\Rightarrow \#(\sigma_a \cdot \sigma_b \cdot \sigma_c)_{G(k,n)} = 0$$