

According to P200, $a_{a_i}^* \geq \bar{i} \Rightarrow a_j^* \geq 1, \dots, a_j^* \geq k-\bar{i}+1$,
 \Rightarrow The smallest a^* is $\underbrace{k-\bar{i}+1, \dots, k-\bar{i}+1}_{\bar{j}}, 0 \dots 0$

$$\Rightarrow * \underbrace{\sigma_{\bar{j}, \dots, \bar{j}}}_{k-\bar{i}+1} = \underbrace{\sigma_{k-\bar{i}+1, \dots, k-\bar{i}+1}}_{\bar{j}}$$

$$\begin{array}{ccccc} M & \xrightarrow{L} & G(k, n) & \xrightarrow{*} & G(n-k, n) \\ \cup & & \cup & & \cup \\ D_i^{(\bar{j})} & \longrightarrow & \underbrace{\sigma_{\bar{j}, \dots, \bar{j}}}_{k-\bar{i}+1} & \longrightarrow & \underbrace{\sigma_{k-\bar{i}+1, \dots, k-\bar{i}+1}}_{\bar{j}} \end{array}$$

$$D_i^{(\bar{j})} = (*L)^{-1}(\underbrace{\sigma_{k-\bar{i}+1, \dots, k-\bar{i}+1}}_{\bar{j}}).$$

By $L^*(S^*) = E$ (P412) and $Cr(Q) = \sigma_r^*$ (by P411),
 $(*L)^*(Q) = E$ and $Cr(E) = (*L)^* Cr(Q) = (*L)^* \sigma_r^*$.

$$\begin{array}{ccccc} E & \longrightarrow & S^* & \longrightarrow & Q \\ \downarrow & & \downarrow & & \downarrow \\ M & \xrightarrow{L} & G(k, n) & \xrightarrow{*} & G(n-k, n) \end{array}$$

By the note on P59, since $f^{-1}(\sigma_{k-\bar{i}+1, \dots}) = D_i^{(\bar{j})}$,
 $f^*(\sigma_{k-\bar{i}+1, \dots, k-\bar{i}+1}^*) = D_i^{(\bar{j})*}$, where $f = *L$,

$$\begin{array}{ccc} M & \xrightarrow{f} & G(n-k, n) \\ \cup & & \cup \\ D_i^{(\bar{j})} & \longrightarrow & \sigma_{k-\bar{i}+1, \dots, k-\bar{i}+1}(V) \end{array}$$

What is $\sigma_{k-\bar{i}+1, \dots, k-\bar{i}+1}$?

By Giambelli's formula on P205,

$$\sigma_{k-\bar{i}+1, \dots, k-\bar{i}+1} = \begin{vmatrix} \sigma_{k-\bar{i}+1} & \dots & \sigma_{k-\bar{i}+j} \\ \sigma_{k-\bar{i}} & \dots & \sigma_{k-\bar{i}+j-1} \\ \vdots & & \vdots \\ \sigma_{k-\bar{i}+j+2} & \dots & \sigma_{k-\bar{i}+1} \end{vmatrix}.$$