El camino A es a presión constante, de modo que tendremos que la variación de entropía será:

$$\Delta S_A = \int \frac{dQ_A}{T} = \int \frac{dW_A + dU_A}{T} = \int \frac{dW_A}{T} + \int \frac{dU_A}{T} = \int \frac{PdV}{T} + \int_{Ti}^{Tf} \frac{nc_V dT}{T} = \int_{Ti}^{Tf} \frac{nRdT}{T} + \int_{Ti}^{Tf} \frac{nc_V dT}{T} =$$

$$= \int_{Ti}^{Tf} \frac{n(R + c_V)dT}{T} = \int_{Ti}^{Tf} \frac{nc_P dT}{T} = nc_P \ln T\Big]_{Ti}^{Tf} = nc_P (\ln T_f - \ln T_i) = nc_P \ln \frac{T_f}{T_i}$$

El camino B es a volumen constante, luego tendremos:

$$\Delta S_B = \int \frac{dQ_B}{T} = \int \frac{dW_B + dU_B}{T} = \int \frac{dU_B}{T} = \int_{Ti}^{Tf} \frac{nc_V dT}{T} = nc_V \ln T\Big]_{Ti}^{Tf} = nc_V (\ln T_f - \ln T_i) = nc_V \ln \frac{T_f}{T_i}$$

Como $c_P > c_V \Rightarrow \Delta S_A > \Delta S_B$

<u>$\Delta S_A > \Delta S_B$</u>