Neglecting density the incompressible Navier-Stokes equations are given as

$$\frac{\partial u_i}{\partial t} + u_j \frac{u_i}{\partial x_j} = \frac{\partial}{\partial x_j}\left[(\nu + \nu_T)\left(\frac{\partial u_i}{\partial x_j} + \frac{\partial u_j}{\partial x_i}\right)\right] - \frac{\partial p}{\partial x_i} \tag{1}$$

$$\frac{\partial u_i}{\partial x_i} = 0 \tag{2}$$

Take the divergence of (1). The terms with constant ν will then disappear due to continuity and we get

$$\frac{\partial}{\partial x_i}\left(u_j \frac{u_i}{\partial x_j}\right) = \frac{\partial}{\partial x_i}\left(\frac{\partial}{\partial x_j}\left[\nu_T\left(\frac{\partial u_i}{\partial x_j} + \frac{\partial u_j}{\partial x_i}\right)\right]\right) - \frac{\partial^2 p}{\partial x_i \partial x_i} \tag{3}$$

Multiply by testfunction q and integrate over domain:

$$\int_\Omega q \frac{\partial}{\partial x_i}\left(u_j \frac{u_i}{\partial x_j}\right) = \int_\Omega q \frac{\partial}{\partial x_i}\left(\frac{\partial}{\partial x_j}\left[\nu_T\left(\frac{\partial u_i}{\partial x_j} + \frac{\partial u_j}{\partial x_i}\right)\right]\right) - \int_\Omega q \frac{\partial^2 p}{\partial x_i \partial x_i} \tag{4}$$

Integrate first term by parts:

$$\int_\Omega q \frac{\partial}{\partial x_i}\left(u_j \frac{u_i}{\partial x_j}\right) = \int_\Gamma q u_j \frac{\partial u_i}{\partial x_j} n_i - \int_\Omega \frac{\partial q}{\partial x_i} u_j \frac{u_i}{\partial x_j} \tag{5}$$

Second term:

$$\begin{aligned} \int_\Omega q \frac{\partial}{\partial x_i}\left(\frac{\partial}{\partial x_j}\left[\nu_T\left(\frac{\partial u_i}{\partial x_j} + \frac{\partial u_j}{\partial x_i}\right)\right]\right) &= \int_\Gamma q \frac{\partial}{\partial x_j}\left[\nu_T\left(\frac{\partial u_i}{\partial x_j} + \frac{\partial u_j}{\partial x_i}\right)\right] n_i \\ &\quad - \int_\Omega \frac{\partial q}{\partial x_i} \frac{\partial}{\partial x_j}\left[\nu_T\left(\frac{\partial u_i}{\partial x_j} + \frac{\partial u_i}{\partial x_j}\right)\right] \end{aligned} \tag{6}$$

Rewrite second term on the right, remove one term due to continuity

$$\int_\Omega \frac{\partial q}{\partial x_i} \frac{\partial}{\partial x_j}\left[\nu_T\left(\frac{\partial u_i}{\partial x_j} + \frac{\partial u_j}{\partial x_i}\right)\right] = \int_\Omega \frac{\partial q}{\partial x_i} \frac{\partial \nu_T}{\partial x_j}\left(\frac{\partial u_i}{\partial x_j} + \frac{\partial u_j}{\partial x_i}\right) + \frac{\partial q}{\partial x_i} \nu_T \frac{\partial^2 u_i}{\partial x_j \partial x_j} \tag{7}$$

Rewrite second term on the right again

$$\int_\Omega \frac{\partial q}{\partial x_i} \nu_T \frac{\partial^2 u_i}{\partial x_j \partial x_j} = \int_\Gamma \frac{\partial q}{\partial x_i} \nu_T \frac{\partial u_i}{\partial x_j} - \int_\Omega \frac{\partial}{\partial x_j}\left(\frac{\partial q}{\partial x_i} \nu_T\right) \frac{\partial u_i}{\partial x_j} \tag{8}$$

Puh, but now I think you should be able to recognize all terms from NSCoupled.