$$\mathbf{d}_1 \fatsemi (\mathbf{d}_2 \fatsemi \mathbf{d}_3) = \langle \mathbf{F}_1, \mathbf{R}_3, \mathbf{I}'_{1,3}, \mathsf{prov}'_{1,3}, \mathsf{req}'_{1,3} \rangle$$