$$\underbrace{\mathrm{d}\left[\mathrm{ly}\right]\left(t\right)}_{\mathrm{d}\boldsymbol{\eta}(t)} = \left(\underbrace{\underbrace{\left[\mathrm{drift\_ly\_ly}\right]}_{\mathbf{A}}}_{\text{DRIFT}}\underbrace{\left[\mathrm{ly}\right]\left(t\right)}_{\boldsymbol{\eta}(t)} + \underbrace{\underbrace{\left[0\right]}_{\mathbf{b}}}_{\text{CINT}}\right)\mathrm{d}t \quad +$$

$$\mathit{cholsdcor}\left(\underbrace{\underbrace{\left[\mathrm{diffusion\_ly\_ly}\right]}_{\mathbf{G}}}_{\text{DIFFUSION}}\right)\underbrace{\mathrm{d}\left[W_1\right]\left(t\right)}_{\mathrm{d}\mathbf{W}(t)}$$

$$\underbrace{\left[W_1\right]\left(t+u\right)}_{\mathbf{W}(t+u)} - \underbrace{\left[W_1\right]\left(t\right)}_{\mathbf{W}(t)} \sim \mathrm{N}\left(\left[0\right], \left[\mathrm{u\text{-}t}\right]\right)$$

$$\underbrace{\left[\mathrm{y}\right]\left(t\right)}_{\mathbf{Y}(t)} = \underbrace{\underbrace{\left[1\right]}_{\boldsymbol{\Lambda}}}_{\text{LAMBDA}}\underbrace{\left[\mathrm{ly}\right]\left(t\right)}_{\boldsymbol{\eta}(t)} + \underbrace{\underbrace{\left[\mathrm{manifestmeans\_y}\right]}_{\boldsymbol{\tau}}}_{\text{MANIFESTMEANS}} + \underbrace{\underbrace{\left[0.5\right]}_{\boldsymbol{\Theta}}}_{\text{MANIFESTVAR}}\underbrace{\left[\epsilon_1\right]\left(t\right)}_{\boldsymbol{\epsilon}(t)}$$

$$\underbrace{\left[\epsilon_1\right]\left(t\right)}_{\boldsymbol{\epsilon}(t)} \sim \mathrm{N}\left(\left[0\right], \left[1\right]\right)$$

cholsdcor = Function converting lower tri matrix of std dev and unconstrained correlation to Cholesky factor.

See Driver & Voelkle (2018) p11.