## Arena orgdat = data.framespecs = listmedia = listphenotypes = listmediac = characteroccmat = Matrixtstep = numericstir = logicaln = integerm = integeraddOrg() addSubs() changeSub() changeOrg() checkPhen() simulate() stirEnv() dat2mat() Eval medlist = listsimlist = listaddEval() evalArena() getArena() plotCurves() minePheno()

## lbnd = numericubnd = numerictype = charactermedium = characterlpobj = sysBiolAlgfbasol = listSubstance lyse = logicalsmax = numericfeat = listdiffmat = Matrixdeathrate = numericname = characterduplirate = numericdifunc = characterdifspeed = numericdiffuseNaiveR() constrain() diffuseNaiveCpp() consume() getHood() growExp() growLin() optimizeLP() lysis() Bac speed = integerbudge = logicalchem = charactergrowth()

move()

budging()
simBac()

chemotaxis()

## duplirate = numeric growthlimit = numeric growtype = character constrain() consume() emptyHood() getHood() getPhenotype() growExp() growLin() optimizeLP() lysis() Human objective = character changeFobj() cellgrowth() simHum()

Organism