**The Structure of Objects of Class “gAnalysis”** March 29, 2011

* Wells in a list without names, only numbered, i.e. g.analysis[[1]]
  + version – originally for if gAnalysis were ever saved in the database instead of recreated every time, not really in use yet
  + raw.time – time data from the BioScreen
  + raw.data – optical density data from the BioScreen
  + deriv – raw data points for the derivative predicted from the optical density *at raw.time points provided by BioScreen*
  + secderiv – same as deriv, but the second derivative
  + fit.time – the x-values derived by the smooth.spline function, by default just raw.time
  + fit.data – the y-values from smooth.spline at fit.time points
  + spline – the object of class “smooth.spline” generated by the built-in function. Can be useful for graphing curves (has a generic plot function associated)
  + graph – contains parameters useful for the one-curve graphs – should be phased out (maybe already defunct?)
    - time.mu – the time where the max of the first derivative of the spline curve occurs, i.e. the maximum growth rate
    - time.A – the time where the maximum optical density occurs
    - y.mu – the optical density value at the maximum growth rate
  + parameters –
    - A – maximum optical density
    - mu – maximum growth
    - lambda – time value intersection of the maximum growth rate tangent line with the initial optical density – the lag time
    - time.mu
    - time.A
    - y.mu
    - iniial.od – (type has been fixed in my version)
    - integral – using low.integrate, of all datapoints provided
    - time.max
    - trajectory – final slope
    - max.secderiv.index
    - max.secderiv.time
    - max.secderiv
  + Info – all categories in the associated database file and attributes (depending on what is provided in the database file)
    - Categories, (e.g. Well.Name)
      * Attribute (e.g. CM1\_ura3\_2.3)