While the aggregation process of superparamagnetic colloids in strong magnetic field is well known on short time since a few decades, recent theoretical works predicted an equilibrium state reached after a long time. In this talk, we present experimental observations of this equilibrium state with a two-dimensional system and we compare our data with the predictions of a pre-existing model. Above a critical aggregation size, a deviation between the model and the experimental data is observed. This deviation is explained by the formation of ribbon-shaped aggregates, due to lateral aggregation of chains. Interestingly, when the magnetic field is removed, particles then freely diffuse from their positions in the agglomerate. It is worthwhile to notice that all the particles initially have the same coordinate on the axis perpendicular to the initial chain. This configuration then enables the observer to study the one dimensional diffusion process, while actually seeing the underlying Brownian motion of the microscopic particles. Moreover, by studying the evolution of the particles distribution, a measurement of the diffusion coefficient is performed. With a calibration using a fluid of known viscosity, this process allows measurement of local viscosities through the Stokes-Einstein relation.