Supplementary Information

Analytical Methods

Real-time characterization of mammalian cell culture bioprocesses by magnetic sector MS

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Fig S1 Flow-rates for Air, O$_2$ and CO$_2$ delivered by the HyPerforma G3Lab controller to four fed-batch cultures which were monitored upon characterization of the exhaust-gas composition by magnetic sector MS analysis.

Fig S2 Off-gas stream flow-rate in the fed-batch culture FB-2 which was monitored through the non-invasive V2 MS-bioreactor configuration. Inlet flow-rate values are not shown since in the V2 configuration the inlet gas composition was determined by analogue transfer of parameters from the G3Lab controller to the MS.
Fig S3 Overview of glucose, lactate and glutamine profiles obtained in fed-batch cultures FB-1, FB-2, FB-3 and FB-4 respectively.

Fig S4 Protein titer curves obtained by affinity liquid chromatography for batch (B-1) and fed-batch cultures (FB-x) evaluated upon characterization of the off-gas composition by magnetic sector MS.