The total lipids of *Tsukamurella paumetabola* C-924 were analyzed after freeze-drying. Seven individual lipid classes were identified namely neutral lipids (NLs), fatty acids (FAs), phospholipids (PLs), sterol ester (SEs), triglycerides (TGs), diglycerides (DGs) and monoglycerides (MGs). The principal fatty acids identified in most lipid classes were palmitic (C\textsubscript{16:0}), palmitoleic (C\textsubscript{16:1}), oleic (C\textsubscript{18:1}), linoleic (C\textsubscript{18:2}) and linolenic (C\textsubscript{18:3}). PLs were the major constituents and accounted for 50-60% of the total lipids. PLs were fractionated. PLs of *Tsukamurella paumetabola* content phosphatidic acid (PA), phosphatidylethanolamine (PE), phosphatidylcholine (PC), sphingomyelin (SM), lysophosphatidylcholine (LPC) and phosphatidylglycerol (PG). It was observed that PG had the highest proportion at most points relative to other PLs and was the predominant component of PLs (30%-56%). Evolution of individual rate was followed during storage at 20°C and 40°C with or without lithothamne400®, respectively.

**Keywords.** Lactic acid bacteria, fatty acids, phospholipids class separation, light-scattering detection, survival, temperature.

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**Performance monitoring and optimization of industrial processes**

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Data mining refers to extracting useful knowledge from large amounts of data. It is a result of the natural evolution of information technology and development of recent algorithms. Starting from large databases, the main objective is to find interesting latent patterns. In the end, the quality of a model is assessed by its performance for predicting new observations. Bagging and boosting are general strategies for improving classifier and predictor accuracy. They are examples of ensemble methods, or methods that use a combination of models. The bagging algorithm creates an ensemble of models (by bootstrap sampling) for a learning scheme where each model gives an equally-weighted prediction. Particularly, random forests are a combination of tree predictors such that each tree depends on the values of a random vector sampled independently and with the same distribution for all trees in the forest. Internal estimates are also used to measure variable importance. Within the framework of a Kraft pulp mill, we analyze recovery boilers pollutants and steam production. This kind of boiler acts both as a high-pressure steam boiler and as a chemical reactor with reductive and oxidative zones. The steam is used in other mill processes and to run a steam turbine in order to produce electrical energy. Significant perspectives are already existing to optimize this production and reduce atmospheric pollutants. Nowadays random forests modeling is a promising way to achieve that.

**Keywords.** Data mining, random forests, Kraft pulping process, recovery boiler.