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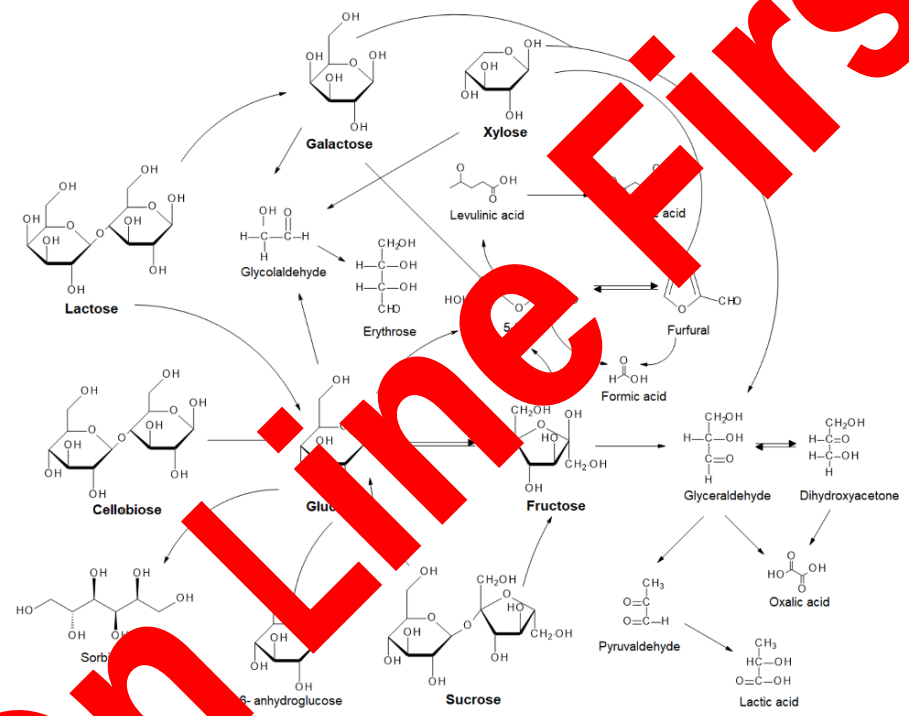
platform chemical for production of various organic acids, such as levulinic and formic acid. Glucose dehydration led to the formation of 1,6-anhydroglucose, while hydrogenation can form sugar alcohol sorbitol. By retro-aldol condensation reactions glycolaldehyde and erythrose and on the other hand glyceraldehyde and 1,3-dihydroxyacetone are formed. Dehydration of glyceraldehyde leads to the formation of pyruvaldehyde, which is further converted into lactic acid. Oxalic acid is also a product of glyceraldehyde. Hydrogenation of glucose can lead to the formation of sorbitol.



ure S3. The proposed reaction mechanism of sugar degradation.

REFERENCES

1. S. H. ajavi, Y. Kimura, T. Oomori, R. Matsuno, S. Adachi, *J. Food Eng.* **68** (2005) 20 p://dx.doi.org/10.1016/j.jfoodeng.2004.06.004)
2. asaki, M. Furukawa, K. Minami, T. Adschiri, K. Arai, *Ind. Eng. Chem. Res.* **41** (2002) 6642 (http://dx.doi.org/10.1021/ie020326b)
3. B. M. Kabyemela, M. Takigawa, T. Adschiri, R. M. Malaluan, K. Arai, *Ind. Eng. Chem. Res.* **37** (1998) 357 (http://dx.doi.org/10.1021/ie9704408)
4. H. Rasmussen, H. R. Sørensen, A. S. Meyer, *Carbohydr. Res.* **385** (2014) 45 (http://dx.doi.org/10.1016/j.carres.2013.08.029)
5. Y. Kanie, K. Akiyama, M. Iwamoto, *Catal. Today* **178** (2011) 58 (http://dx.doi.org/10.1016/j.cattod.2011.07.031).