Accepted Manuscript

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PII:	S0959-6526(18)31081-3
DOI:	10.1016/j.jclepro.2018.04.062
Reference:	JCLP 12643
To appear in:	Journal of Cleaner Production
Received Date:	23 September 2017
Revised Date:	03 April 2018
Accepted Date:	07 April 2018

Please cite this article as: Camila Peixoto do Valle, Jailson Silva Rodrigues, Lillian Maria Uchoa Dutra Fechine, Arcelina Pacheco Cunha, Jackson Queiroz Malveira, Francisco Murilo Tavares Luna, Nágila Maria Pontes Silva Ricardo, Chemical modification of Tilapia oil for biolubricant applications, *Journal of Cleaner Production* (2018), doi: 10.1016/j.jclepro.2018.04.062

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Highlight

- Tilapia oil is a raw material that has not been tested for biolubricant production.
- A pathway with 3 steps is proposed to obtain biolubricant esters from Tilapia oil.
- The biolubricant with the longest chain alcohol showed highest thermal stability.
- The lubricant-grade esters showed higher biodegradability than petroleum-based oils.

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