



The result of the mid-term assessment together with the justification

Wynik oceny śródkresowej wraz z uzasadnieniem



for the period 07.11.2022 to 06.10.2024

SEYEDBEHZAD ROUHIPOUR

the doctoral student at PUT Doctoral School / doktorant Szkoły Doktorskiej PP

discipline of science / dyscyplina naukowa:
environmental engineering, mining and energy
/ inżynieria środowiska, górnictwo i energetyka

The result of assessment / Wynik oceny

Positive / Pozytywna*	Negative / Negatywna*
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Justification / Uzasadnienie

The PhD student started his work with preparing a review paper about in-situ product recovery of carboxylic acids. The literature review was reported as completed. The doctoral student stated that in this way he obtained information on the research methodology, which he will use in further stages of his work. However, the article was not published so the effect announced in the IRP was not developed. The committee unanimously assumes that since the further steps recorded in the IRP of the research were completed, it means that the literature review was effectively completed and is only waiting for editing and an attempt at publication. Therefore, this stage can be considered completed with a recommendation from the committee: please finalize the work on the review article as soon as possible.

As the effect of experiment based on mixing and comparing the extraction efficiency of carboxylic acids from different types of vegetable oils (sunflower oil, olive oil, canola oil, rapeseed oil), the solvent with the highest extraction efficiency was indicated. The following extractants were used during the experiment: Trioctylphosphine oxide (TOPO), Trioctylamine (TOA), CYTOP 503, Oleyl alcohol, 1-butyl-3-methylimidazolium hexafluorophosphate (BMIM-PF6) and TWEEN 80. The chosen extractant with the highest extraction efficiency is TOPO (Trioctylphosphine oxide). The process no. 1 from individual research plan (IRP) was properly done and the results are useful to be taken into account during further investigations. There is no information about what parameters/properties of the materials used were decisive for their selection – we suggest to complete this lack in the dissertation.

As the effect of experiment investigating the coalescence behavior with regards to pH, the influence of contaminants such as salt as well as presence of microorganisms the PhD student conducted research under initial conditions "pH at 5.5 and the temperature at 30°C (this condition was set for all the experiments). The prepared containers containing the aqueous and oil phases were placed on the stirrer for 16.5 hours for mixing into incubator, and then we put them on a flat surface for one hour to separate again, and sampling of the aqueous and oil phases was done for GC and HPLC". The process no. 3 from individual research plan (IRP) was started and not completed yet. According to the committee, this point of the IRP has been partially implemented and the PhD student has overestimated the degree of implementation. Tests conducted only for one assumed level of pH and temperature do not fulfill the content of the point recorded in the IRP. The use of the phrase "behavior with regard to" in our opinion indicates the need to analyze the pH variability. However, during the scientific discussion it was explained that the initial intentions turned out to be extended in relation to the scope of research that is actually necessary to achieve the aim of the work.

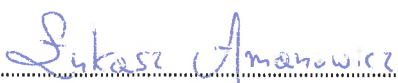
The point no. 4 from IRP: "The optimal solvent and process parameters for in-situ product removal" from IRP was not reported as finished. Some delays were explained by the student as being caused by delays in the delivery of raw materials and the need to repeat some preliminary research, which otherwise took much longer than originally anticipated. The Committee considers this explanation credible. At the same time, we assess that the delay does not threaten the implementation of further tasks included in the IRP or the timeliness of submitting the dissertation.

The doctoral student assessed the degree of completion of the IRP at 90%, which means the degree of advancement of all work at the level of 45%. The advancement in the preparation of the doctoral dissertation was assessed by PhD student at 35%. The committee assessed the given values as realistic and the deadline for submitting the dissertation as realistic. The research methods presented by the doctoral student are correct. The doctoral student describes them reliably. We assess the scientific quality of the presented work as very good. Taking the above into account, the committee gives a positive assessment for final assessment of doctoral student.

The assessment was carried out on / Ocenę przeprowadzono w dniu 17.10.2024

On behalf of the Commission / Za Komisję

17.10.2024
Date


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Legible signature of Head of Commission