Sample Paper

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Also, please insure during the writing process that any spelling, grammar, syntax, sentence structure and verb tense errors are corrected as well as that the manuscript is formatted in accord with JESH guidelines. For papers from countries where English is not the working language, we recommend that you should get your paper checked before submission by professional English editing services as well as by someone fluent in idiomatic English. Poorly written papers with mistakes in English will be rejected even before the reviewing process.

Abbreviations and acronyms should be defined (spelled out) in parentheses when they are used first time within the abstract and again in the main text. Then use them throughout the remainder of the manuscript.

When mentioned first time in the text the chemical names (IUPAC) of the compounds should be shown in parenthesis

Cover Letter Requirement:

A cover letter must be sent in a WORD file only along with the manuscript providing a rationale for consideration of the paper by this journal. The letter must also include the names, institutional affiliations, addresses and e-mail addresses of four (4) experts working in the same research area as described in your paper who can serve as possible potential reviewers for the manuscript. The suggested reviewers should be experts in the subject matter of the manuscript and not be anyone who is or has been a former adviser/advisee, colleague in the same institution, research collaborator, and/or co-author of papers and patents or in any other way has a conflict of interest. Please list their expertise and/or at least one of the most recent publication with full reference to confirm that his/her research is specifically in the same research area as described in the paper. Irrelevant experts will substantially delay the consideration of the paper and are not acceptable. Authors must also make sure that the experts' e-mail addresses are currently active and correct.

Information Classification: General

Sample Paper

Biodegradation of polyvinyl alcohol by *phanerochaete chrysosporium* after treatment with Fenton reagent

Author(s) Name(s)[1]

(First name, middle initial, last name)

[1]*Affiliation(s) addresses)*

Abstract

The Abstract should capture the main points of the paper (an Abstract is not required for some introduction). The Abstract should be focusing on the followings: What was investigated (**state clearly the specific objective(s) of the study**); why it was necessary; briefly state how was it done; what are the main results; what is the value of the study. Superfluous sentences and irrelevant statements should be eliminated. The Abstract should be presented in one paragraph.

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*Address correspondence to Name?, Complete address; Phone:----------; Fax:----------; E-mail:----------@----------

KEYWORDS: About 10 words. Please do not use the same word already present in the title of the paper.

Introduction

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Natural and synthetic polymeric materials including polyvinyl alcohol (PVA) have been widely used as warp sizes for synthetic and cotton-synthetic blends in the textile industry. In consequence, the waste load from textile finishing mills contains significant amount of the sizing agents. [1, 2] Dental et al. [3] reported that PVA is a highly structured organic compound that is very difficult to break down biologically. Hence, it is difficult to achieve a satisfactory treatment of textile wastewater by the traditional activated sludge process. Together with a rapid escalation of the costs involved in textile wastewater treatment and more stringent wastewater discharge standards, this has prompted recent research efforts to identify other more efficient and economic treatment methods. For the treatment of textile wastewater, a number of chemical processes have been investigated, including adsorption by activated carbon, [4] electrochemical treatment, [7] ozonation, [8-11] and oxidation by Fenton's reagent (FR). [12, 13]

In this study, FR treatment is combined with *P. chrysosporium* treatment, and the rates and the extent of biodegradation of PVA are evaluated by the KI-I_2 test, total organic carbon (TOC) analysis, chemical oxygen demand (COD) analysis, and gel permeation chromatography (GPC).

Materials and methods

Samples preparation and pH adjustment

(Author note: This is Second-Level heading style, Capital letter for the first word only; all lowercase letters thereafter. All typed in *italic and boldface*.

Solutions containing 5% PVA powder were prepared with distilled water and autoclaved at 90^{o}C for 30 min. The pH of each PVA solution was then adjusted to 4.2 with 0.1N HCl.

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Initial experiment and oxidation procedure

(Author note**:** This is Third-Level heading style**,** Capital letter for the first word only; all lowercase letters thereafter. All typed in *italic*.)

)

To Erlenmeyer flasks (500 mL) containing 200 mL of a sterile PVA solution (5.0%, wt v^{-1}), equal volumes (50 mL each) of H_2O_2 (2.8 M) and $FeSO_4$ (0.10 M) were added simultaneously. [27]

(Author note: use L to express volume, i.e. mL , µL , mg/L etc. and not ml or µl or mg/l etc. throughout the manuscript including tables and figures)

PVA degradation studies

The production medium was incubated at 37ºC with shaking for 3 days, and then 15 mL of FR–treated PVA solution was added. Incubation and PVA degradation were continued for an additional 7 days at 37ºC with shaking. All degradation experiments were conducted in duplicate. Five mL of sub-sample was taken aseptically at intervals for KI-I_2 testing, COD analysis, TOC analysis, gel permeation chromatography, and enzyme assays.

Analytical methods

PVA concentration was determined by using a modified version of the colorimetric technique

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described by Bugada and Rudin. [31] Subsamples (100 mL) were diluted to a volume of 1.0 mL, and then 0.5 mL of 4% boric acid and 0.2 mL of I_2-KI (1.27g of I_2 and 25 g of KI in 1 liter of deionized water) were added.

Results and discussion

Pre-oxidation of PVA with FR

Table 1 shows that after FR treatment, PVA concentration in the BP05 solution fell by 25.2% and 24.1% as determined by COD and TOC analysis, respectively. In the BF17 solution, PVA concentration fell by 11.6% (COD) and 13.1% (TOC) according to Equation 1.

$$X + Y = Z \qquad (1)$$

(Author note: The equation number must be enclosed in parenthesis.. In the text it should be written as Equation 1.

Degradation of the BP05 and BF17 solutions was also confirmed by the changes in molecular weight distributions as determined by GPC (Figs.1 and 2). In addition to the original peak (retention time 10.3 min.), a peak of greater retention time (retention time 11.2 min.) was observed as shown in Figure 1 on GPC chromatograms of BP05 after FR treatment.

Biodegradation by P. Chrysosporium

Results of the time course study of the biodegradation of BP05 by *P. chrysosporium* are shown

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in Figure 3. After 7 days incubation, initial concentrations of preoxidized PVA had fallen by 58.0%, 65.7% and 52.1% as determined by KI/I_2, COD and TOC analysis, respectively (Table 2). Similar degradation rates (58.0%, 69.2%, 51.3%, respectively) were also observed for BF17 (Fig.4). After treatment with both FR and the fungus, the overall degradations of BP05 and BF17 were 74.4% and 72.8%, respectively (Table 1).

(Author note: When mentioned in the text use full word 'Figure' but in parenthesis use (Fig.), always use full word 'Table'

Conclusion

Our study has conclusively indicated that PVA of higher molecular weights are degraded to lower molecular weights by Fenton's reagent and fungal treatments. This study has also shown and identified for the first time more efficient and economic treatment methods.

(Authors note: Do not present this section in bullet format)

Acknowledgments

We thank Mr. X for technical help.

This work was supported by the University Research Foundation.

References

(Author – Note that Volume Number of the journal should be typed in italic; the year should be typed in boldface. **Please provide names of all authors, et al. is not acceptable**. Note that

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authors' names should be separated by a semicolon and not by a comma.

(For article title - Initial capital letter for the first word and then lowercase letters for all word)

[1] Yuasa, A. Drinking water production by coagulation. Water Sci. Technol. **1998**, *37*(10), 135-146.

[2] Hull, R.; Hirsch, J. Diagnosis of thrombosis. In *Hemostatis and Thrombosis*; Colman, R.W.; Hirsch, J., Eds.; Lippincott: Philadelphia, PA, 2001; 844-856.

[3] Fukae, R.; Fujii, T.; Takeo, M.; Yamamoto, T.; Sato, T.; Maeda, Y.; Sangen, O. Biodegradation of poly(vinyl alcohol) with high isotacticity. Polym. J. **1994**, *26*, 1381-1386.

(Author – Note that Reference 2 is for the book. Its format is different from the journal)

FIGURE CAPTIONS

(The captions for all figures should be listed together on a separate sheet and not with the diagram. Diagram should be indicated by Fig.# only near the bottom.)

Figure 1. Effect of airflow rate on photocatalytic oxidation of α-pinene by honeycomb monolith

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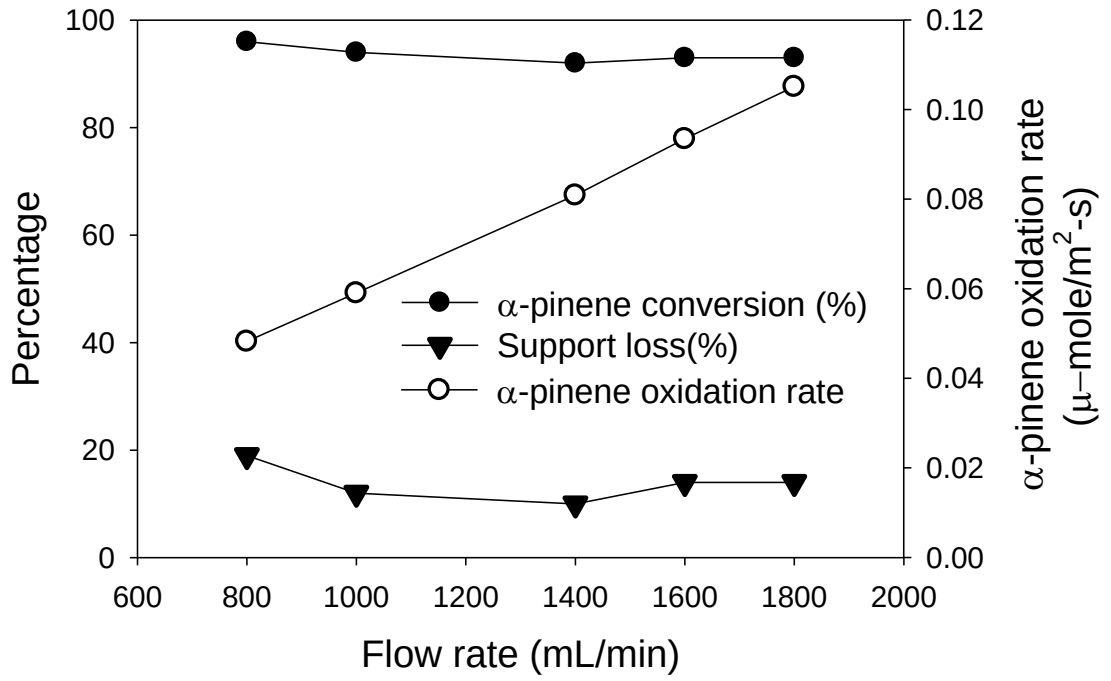

Fig. 1

(Table heading should be typed above the table)

Table 1. Total and dissolved metal concentrations for the secondary and anaerobic sludge

Metal ions	Secondary sludge		Anaerobic sludge	
	Total metal concentration (mg kg^{-1} dry sludge)	Dissolved metal concentration* (mg L^{-1})	Total metal concentration (mg kg^{-1} dry sludge)	Dissolved metal concentration* (mg L^{-1})
Chromium	627	0.08 (0.5 %)	749	0.31 (2.0 %)
Copper	116	0.02 (0.7 %)	198	0.10 (2.4 %)
Lead	23	< 0.001	31	0.01 (1.5 %)

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Nickel	15	0.01 (2.8 %)	34	0.01 (1.4 %)
Zinc	533	0.06 (0.5 %)	843	0.34 (1.9 %)

* Values in parenthesis are the dissolved metal concentration expressed as the mass percentage of total metal concentration.

SUPPORTING MATERIALS

(Place the 'Supporting Materials' at the end of the paper)

Figure 1S. Schematic illustration of sampling and calculating points (St. 1-St.10) in Tokyo Bay, Japan.

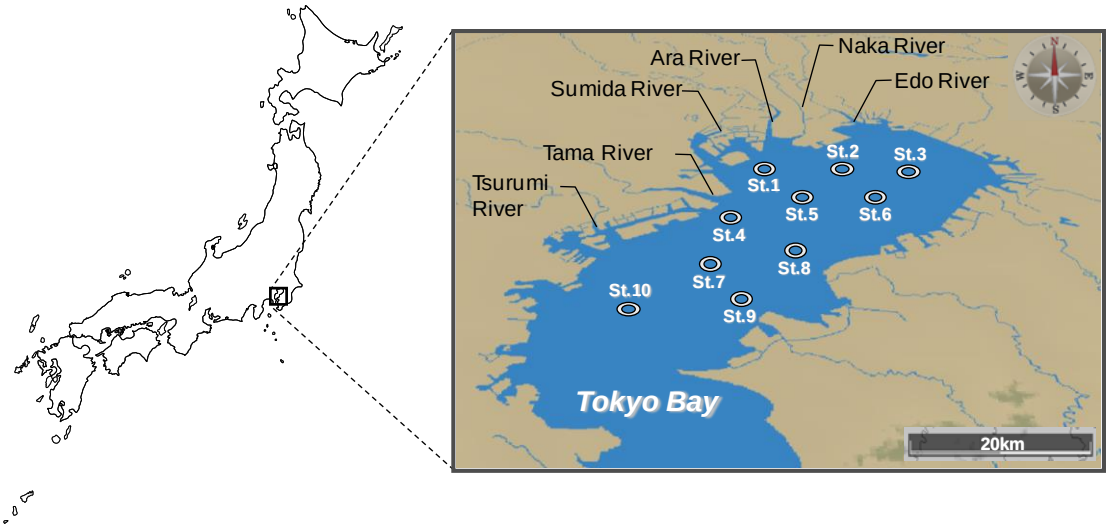

Fig.1S

Table 1S: Elemental composition of acetone washed spent catalyst

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Particle size (µm)	Elemental composition of spent catalyst (%)			
	Ni	**Al**	**Mo**	**V**
45-106	3.06	15.7	2.03	11.3
106-212	3.00	18.7	2.07	12.6
212-850	3.05	19.4	2.13	13.4

Instructions for citing in the text references numbers and listing them in the REFERENCES section

Journal: [1] Betts, K.S. Airport pollution prevention. Environ. Sci. Technol. **1999**, *33*, 210-212.

[2] Corsi, S.R.; Hall, D.W.; Geis, S.W. Aircraft and runway deicers. Environ. Toxicol. and Chem. **2001**, *20*, 1474-1482.

Book:

[1] Hull, R.; Hirsch, J. Diagnosis of thrombosis. In *Hemostatis and Thrombosis*; Colman, R.W.; Hirsch, J., Eds.; Lippincott: Philadelphia, PA, 2001; 844-856.

Text citation style: Superscript, bracketed numbers; fall outside punctuation.

Example:

Kaufman et al. [1] showed that 81% of the nearly 2600 participants had taken one medication in the past week and 25% had taken 5 or more medications. Much of the pharmaceutical dose used therapeutically is not completely degraded in the human body. [2,3] Several researchers have shown [4-9] that indeed, many pharmaceuticals are excreted unchanged or as conjugates of metabolic transformation.

Note that at the end of sentence reference number in superscripted bracket should be placed after the period

In the REFERENCES section, list the articles with numbers in the order they appear in the text.

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