



# **Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis**

*Vijay Kothari, Haren Gosai, Shreya Raval, Vimla Chaudhary*

[Download now](#)

[Click here](#) if your download doesn't start automatically

# Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis

*Vijay Kothari, Haren Gosai, Shreya Raval, Vimla Chaudhary*

## **Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis** Vijay Kothari, Haren Gosai, Shreya Raval, Vimla Chaudhary

Scientific Study from the year 2014 in the subject Biology - Micro- and Molecular Biology, grade: A, Nirma University (Institute of Science), course: M.Sc., language: English, abstract: This study attempted at microwave mutagenesis of: (i) *Lactobacillus plantarum* for lactic acid overproduction, and (ii) *Streptococcus mutans* for reduced lactic acid production. Lactic acid is among the microbiological products with high market potential. Lactic acid is also an important virulence factor in formation of dental caries by *S. mutans*, as the acid produced by the bacteria leads to demineralisation of the teeth. Two of the mutants obtained (one from each organism) were able to maintain the altered lactic acid production till 10 generations. However the magnitude of alteration in lactic acid producing ability of the mutants went on decreasing over generations. The microwave effects observed in this study seem largely to be athermal in nature. Investigation of the mutants obtained at molecular level may result in identification of novel mutations responsible for altered lactic acid production. These mutations can then be introduced into a suitable organism either for better industrial production of lactic acid, or for constructing new probiotic strain(s) for possible application in maintenance of oral health.

Effect of low power (90 W) microwave (2,450 MHz) radiation on bacterial growth and pigment production was studied in three different bacteria. Microwave exposure of 2-6 min duration was able to alter growth and pigment production (prodigiosin production by *Serratia marcescens*, violacein production by *Chromobacterium violaceum*, and staphyloxanthin production by *Staphylococcus aureus*) in the test organisms significantly. In this study, pigment production was estimated in the cell population originated from microwave treated inoculum, and not directly in the MW treated cells. Thus the alterations in pigment production and/or secretion might have been transferred from the originally MW treated cells to their daughter cells (who did not receive direct MW exposure), indicating the mutagenic influence of microwave radiation. Heavy prodigiosin overproduction observed in one of the test tubes inoculated with microwave treated *S. marcescens* could not be sustained by daughter populations corresponding to that tube, indicating the reversible nature of microwave induced mutation(s). The microwave effects observed in this study largely seem to be of athermal nature, as the thermal effect was minimized by use of ice during the microwave treatment.

 [Download Altered production of organic acid and pigments by ...pdf](#)

 [Read Online Altered production of organic acid and pigments ...pdf](#)

**Download and Read Free Online Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis Vijay Kothari, Haren Gosai, Shreya Raval, Vimla Chaudhary**

---

**From reader reviews:**

**Rhonda Munoz:**

The e-book untitled Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis is the book that recommended to you to read. You can see the quality of the guide content that will be shown to a person. The language that creator use to explained their ideas are easily to understand. The author was did a lot of study when write the book, and so the information that they share for your requirements is absolutely accurate. You also might get the e-book of Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis from the publisher to make you far more enjoy free time.

**Anna Cooper:**

Do you have something that you want such as book? The guide lovers usually prefer to pick book like comic, brief story and the biggest you are novel. Now, why not attempting Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis that give your entertainment preference will be satisfied by simply reading this book. Reading habit all over the world can be said as the opportunity for people to know world a great deal better then how they react toward the world. It can't be claimed constantly that reading habit only for the geeky individual but for all of you who wants to possibly be success person. So , for all you who want to start reading as your good habit, it is possible to pick Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis become your own personal starter.

**Lillian Robbins:**

Reading a book to become new life style in this calendar year; every people loves to study a book. When you examine a book you can get a lots of benefit. When you read books, you can improve your knowledge, simply because book has a lot of information into it. The information that you will get depend on what forms of book that you have read. In order to get information about your review, you can read education books, but if you want to entertain yourself read a fiction books, this kind of us novel, comics, in addition to soon. The Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis will give you new experience in reading through a book.

**Lawrence Sawyer:**

This Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis is brand new way for you who has intense curiosity to look for some information mainly because it relief your hunger associated with. Getting deeper you onto it getting knowledge more you know or perhaps you who still having little digest in reading this Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis can be the light food

in your case because the information inside this specific book is easy to get by anyone. These books produce itself in the form which is reachable by anyone, that's why I mean in the e-book web form. People who think that in reserve form make them feel tired even dizzy this book is the answer. So there is no in reading a e-book especially this one. You can find what you are looking for. It should be here for a person. So , don't miss the item! Just read this e-book kind for your better life in addition to knowledge.

**Download and Read Online Altered production of organic acid and pigments by microbes under influence of microwave radiation:  
Microwave Mutagenesis Vijay Kothari, Haren Gosai, Shreya Raval,  
Vimla Chaudhary #SOWLH5ZR06C**

## **Read Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis by Vijay Kothari, Haren Gosai, Shreya Raval, Vimla Chaudhary for online ebook**

Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis by Vijay Kothari, Haren Gosai, Shreya Raval, Vimla Chaudhary Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis by Vijay Kothari, Haren Gosai, Shreya Raval, Vimla Chaudhary books to read online.

## **Online Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis by Vijay Kothari, Haren Gosai, Shreya Raval, Vimla Chaudhary ebook PDF download**

**Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis by Vijay Kothari, Haren Gosai, Shreya Raval, Vimla Chaudhary Doc**

**Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis by Vijay Kothari, Haren Gosai, Shreya Raval, Vimla Chaudhary Mobipocket**

**Altered production of organic acid and pigments by microbes under influence of microwave radiation: Microwave Mutagenesis by Vijay Kothari, Haren Gosai, Shreya Raval, Vimla Chaudhary EPub**