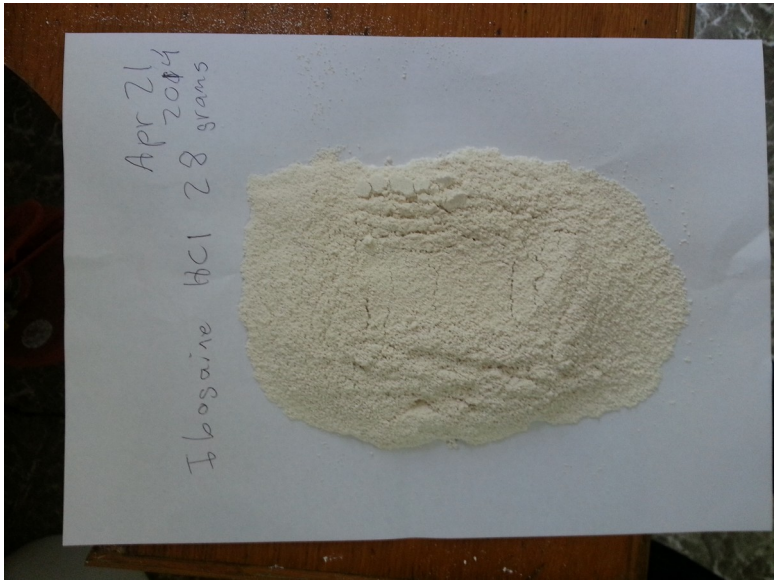
Open-Source Process for the Production of Ibogaine HCl from *Voacanga africana* bark



Published August 2015
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http://www.puzzlepiece.org

Published Procedure

Links:

http://puzzlepiece.org/ibogaine/literature/voacanga_extraction_manual_phase_1.pdf
http://puzzlepiece.org/ibogaine/literature/voacanga_extraction_manual_phase_2.pdf
http://puzzlepiece.org/ibogaine/literature/voacanga_extraction_manual_phase_3.pdf
http://puzzlepiece.org/ibogaine/literature/voacanga_extraction_manual_phase_4.pdf

or navigate to http://www.puzzlepiece.org
and click Drug Addiction Interruption
and click Ibogaine Bibliography
and scroll to Jenks:

Jenks, Christopher W. "Extraction Studies of Tabernanthe Iboga and Voacanga Africana.", Natural Product Letters, (2002), 16(1), 71-76. PDF (402 KB)

Jenks, Christopher W. "Ibogaine Extraction Manual.", Self Published, (2009), 14 pages. PDF (475 KB)

Jenks, Christopher W. "Analysis of Iboga and Voacanga Bark and Extracts by HPLC.", Self Published, (2014), 27 pages. PDF (1.0 MB)

Jenks, Christopher W. "Voacanga Extraction Manual: Phase 1: Isolation of Total Alkaloids.", Self Published, (2015), 12 pages. PDF (520 KB), Pictures.

Jenks, Christopher W. "Voacanga Extraction Manual: Phase 2: Separation of voacangine from more basic alkaloids.", Self Published, (2015), 15 pages. PDF (5.0 MB), Pictures.

Jenks, Christopher W. "Voacanga Extraction Manual: Phase 3: Final purification of voacangine." Self Published, (2015), 16 pages. PDF (4.6 MB), Pictures.

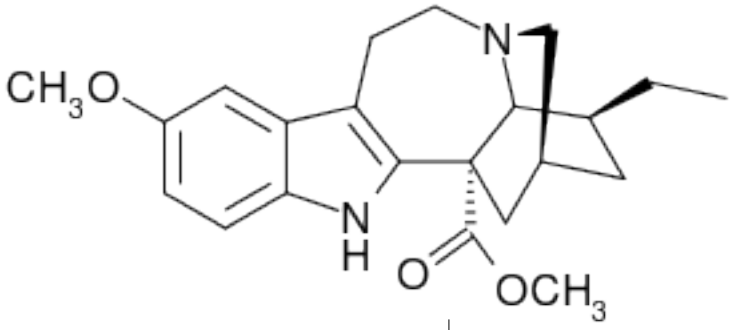
Jenks, Christopher W. "Voacanga Extraction Manual: Phase 4: Production and Purification of Ibogaine.", Self Published, (2015), 26 pages. PDF (1.8 MB), Pictures.

Key Features of this Process

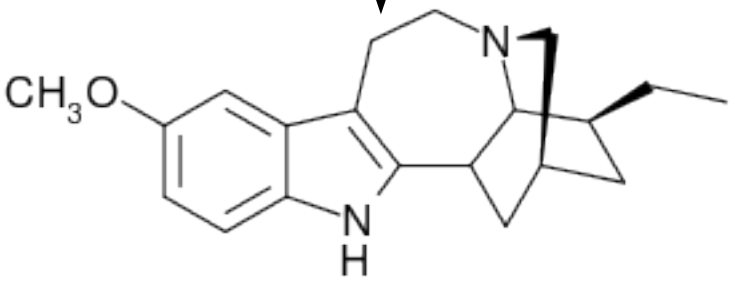
- **Open source**: Entirely published on-line so anyone can use it.
- **Written for a lay audience**: The procedure is written to be understandable to those without training in chemistry, though training in the procedure is highly recommended.
- **Uses inexpensive, widely available materials**: This allows the procedure to be deployed in the most countries and business conditions.
- **Modular**: The process can be divided into four separate phases, each with its own autonomous laboratory.
- **Easily scalable**: The modularity and low supply cost make increasing production inexpensive and simple.
- **Highly efficient**: Recycling and increased numbers of extractions can recover nearly all voacangine from the *Voacanga* bark.
- **Environmentally friendly**: Chemicals can be selected which will allow almost all waste to be applied as fertilizer.

Two Main Steps

1. Isolate pure voacangine (Phases 1-3).
2. Convert voacangine into ibogaine:



“Chop off the balls.” - Beal, 2016.



Ibogaine

The Four Phases

Voacanga bark
~1-2% voacangine

Phase 1

Dilute acid
Dilute base

Voacanga TA
~10% voacangine

Phase 2

Partition between toluene and weak acid

Purified *Voacanga* TA
~30% voacangine

Phase 3

Treat with HCl in acetone

Leach with petroleum
Recrystallize from methanol

Pure voacangine

Phase 4

NaOH/EtOH
Reflux

Recrystallize from methanol
Treat with HCl in acetone

Ibogaine HCl

Making a Bucket Press

Phase 1: Bucket Press System
Stir Bark with Dilute Acid

Pour Root Slurry Into Pillow Cases Allow to Drain

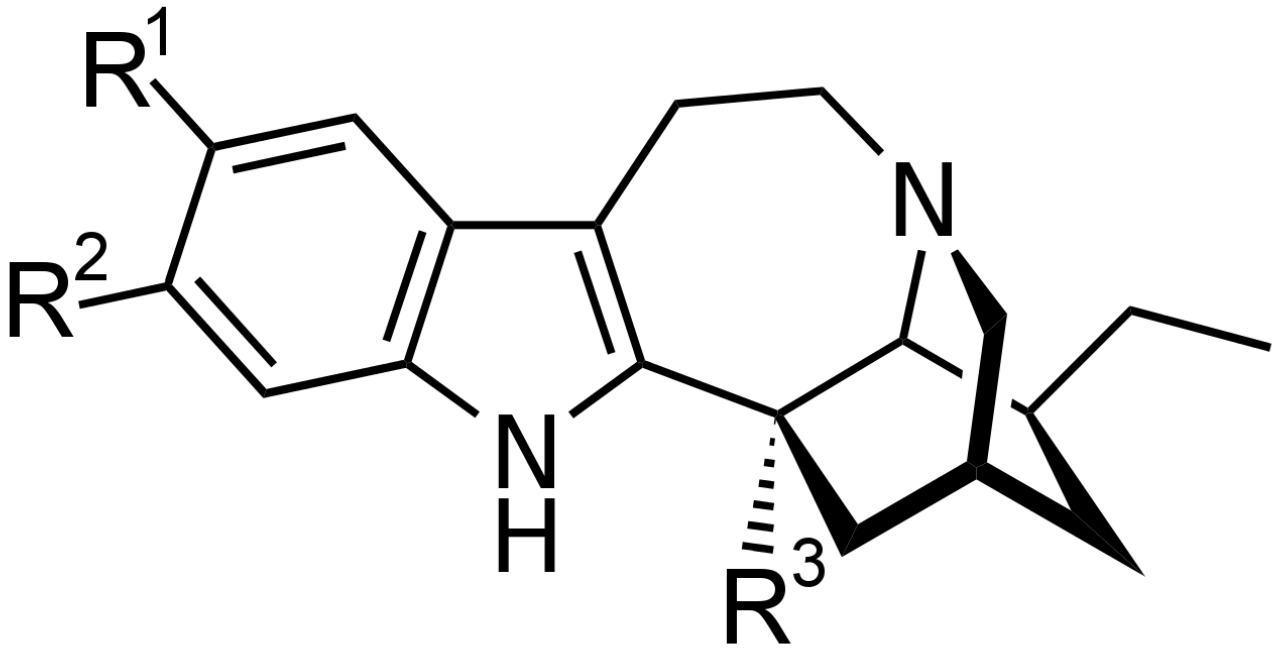
Press the Bark

Open the Presses

Prepare for the Next Extraction Cycle

There are Other Possibly Useful *Iboga* Alkaloids Besides Ibogaine

Iboga Alkaloids for Addiction Treatment Research



	R^1	R^2	R^3		R^1	R^2	R^3
Ibogamine	H	H	H	Coronaridine	H	H	CO_2CH_3
Ibogaine	OCH_3	H	H	Voacangine	OCH_3	H	CO_2CH_3
Tabernanthine	H	OCH_3	H	Isovoacangine	H	OCH_3	CO_2CH_3
Ibogaline	OCH_3	OCH_3	H	Conopharyngine	OCH_3	OCH_3	CO_2CH_3

Possible Alternatives to Ibogaine

Iboga Alkaloids Tested by Humans:

- Ibogaline: Psychoactivity similar to ibogaine with 2-3 times the potency; can be isolated from iboga RA or made from conopharyngine.
- Noribogaine: Not psychoactive at 160 mg.
- Voacangine: Not psychoactive or antiaddictive but causes severe gastrointestinal distress at 200 – 700 mg.

Examples of unexplored but potentially promising alternatives to ibogaine:

- Ibogamine – Present in larger proportion in “especially potent” TA; available from coronaridine, the most naturally common of the simple *iboga* alkaloids.
- Tabernanthine – Patented by Ciba along with ibogaine to potentiate opiates in human beings.
- Ethoxyibogamine – The ethyl analog of ibogaine or tabernanthine which can be synthesized from either in a few steps.

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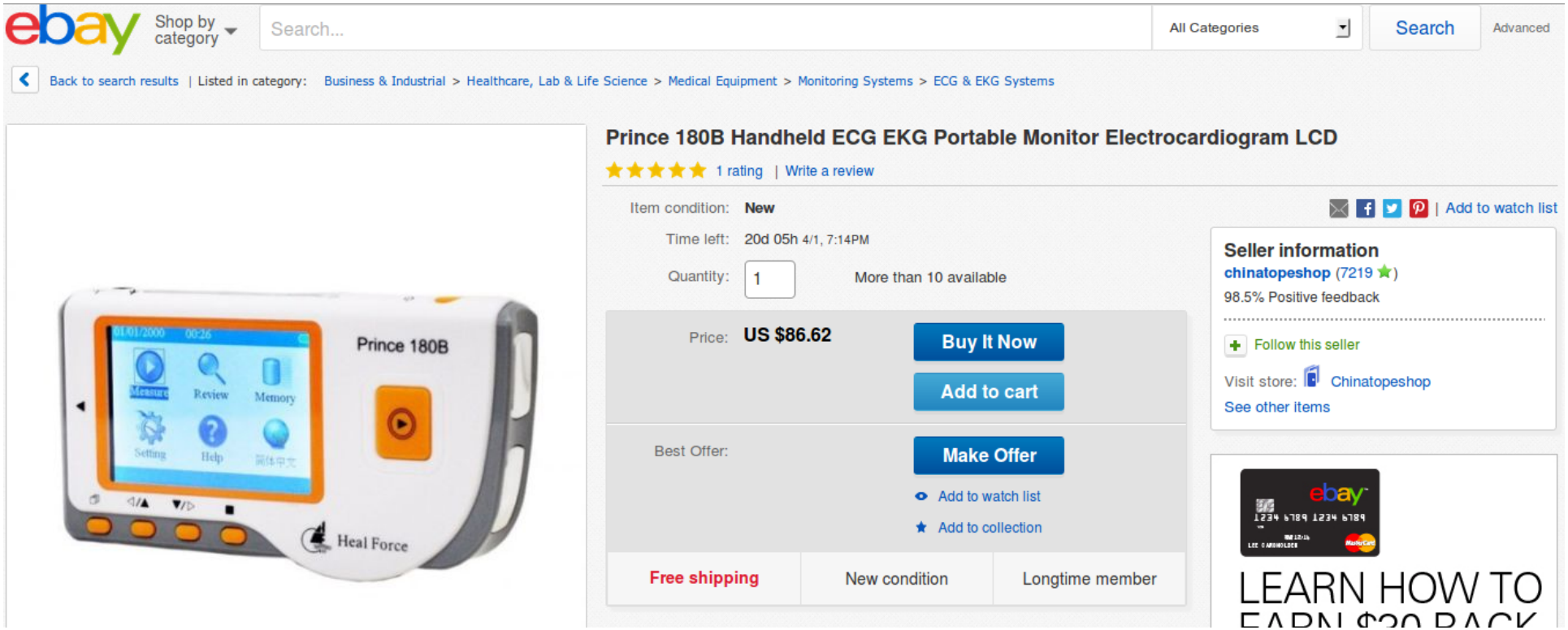

My ECG:

Thank You for Your Attention