

**Green Chemistry
to Green Cash...**

Catalyzing a good idea

**GreenOx Catalysts, Inc.
September 2008**

Alternative Title

Big Bang

Big Birth

Big Mess

Big Opportunity

Silent Spring

Dedicated to Albert Schweitzer who said:

“ Man has lost the capacity
to foresee and to forestall.
He will end
by destroying the earth.”

Leadership - The Human Element

He

‘Values are a Changing’

Less is more.

--Ludwig Mies van der Rohe

Chemical Enterprise's New Mission

Essential 2 Life

Chemical Enterprise's New Mission

Essential 2 (sustainable) Life

Good Science Rules

Innovate or perish.

Key Take-away Today

Fe-TAML Cats are solutions to problems.

Key Take-away Today

smart,
cost effective

Fe-TAML Cats are solutions to problems.
real world

TAML Trademark

T = Tetra

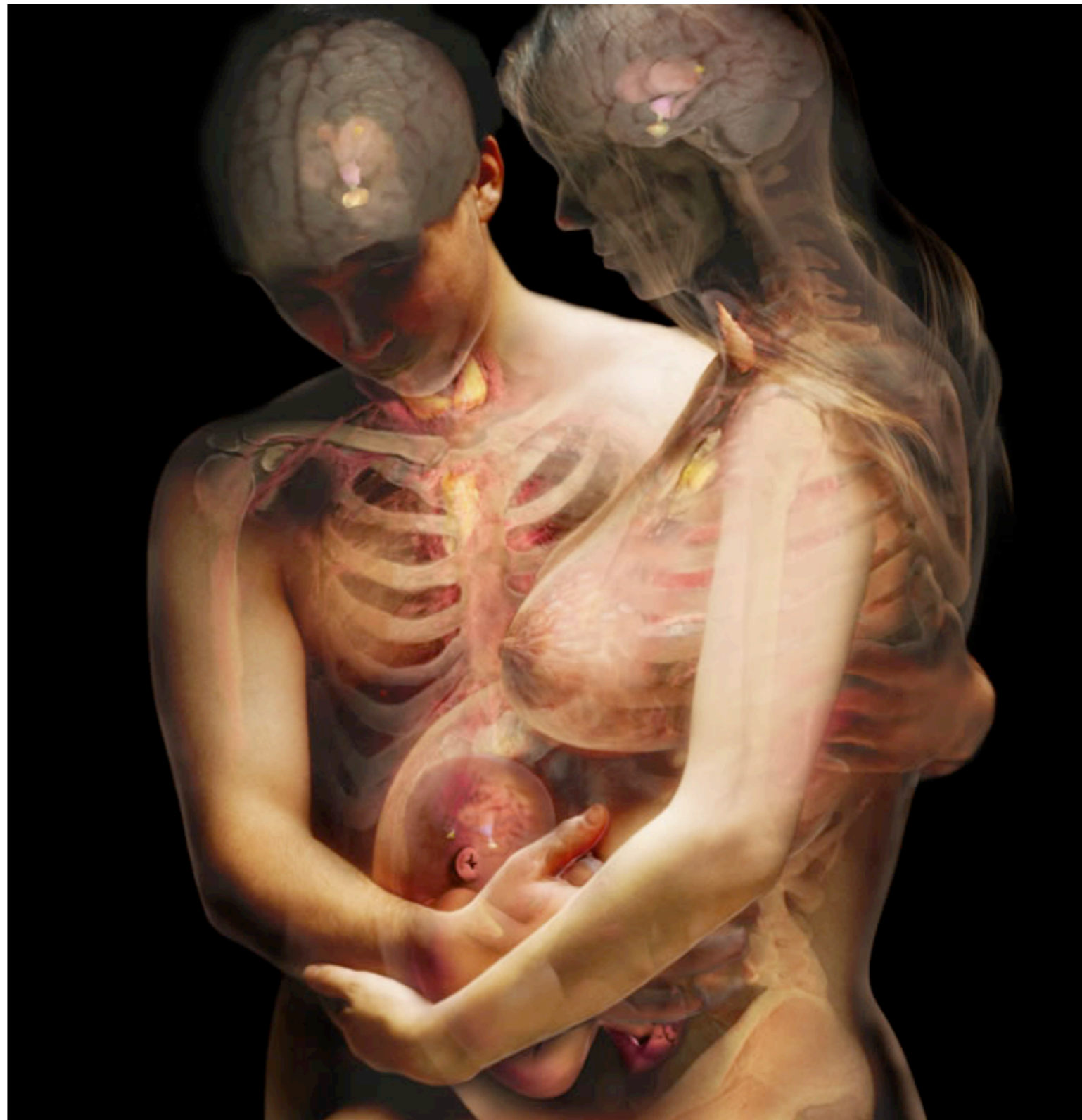
A = Amido

M = Macrocyclic

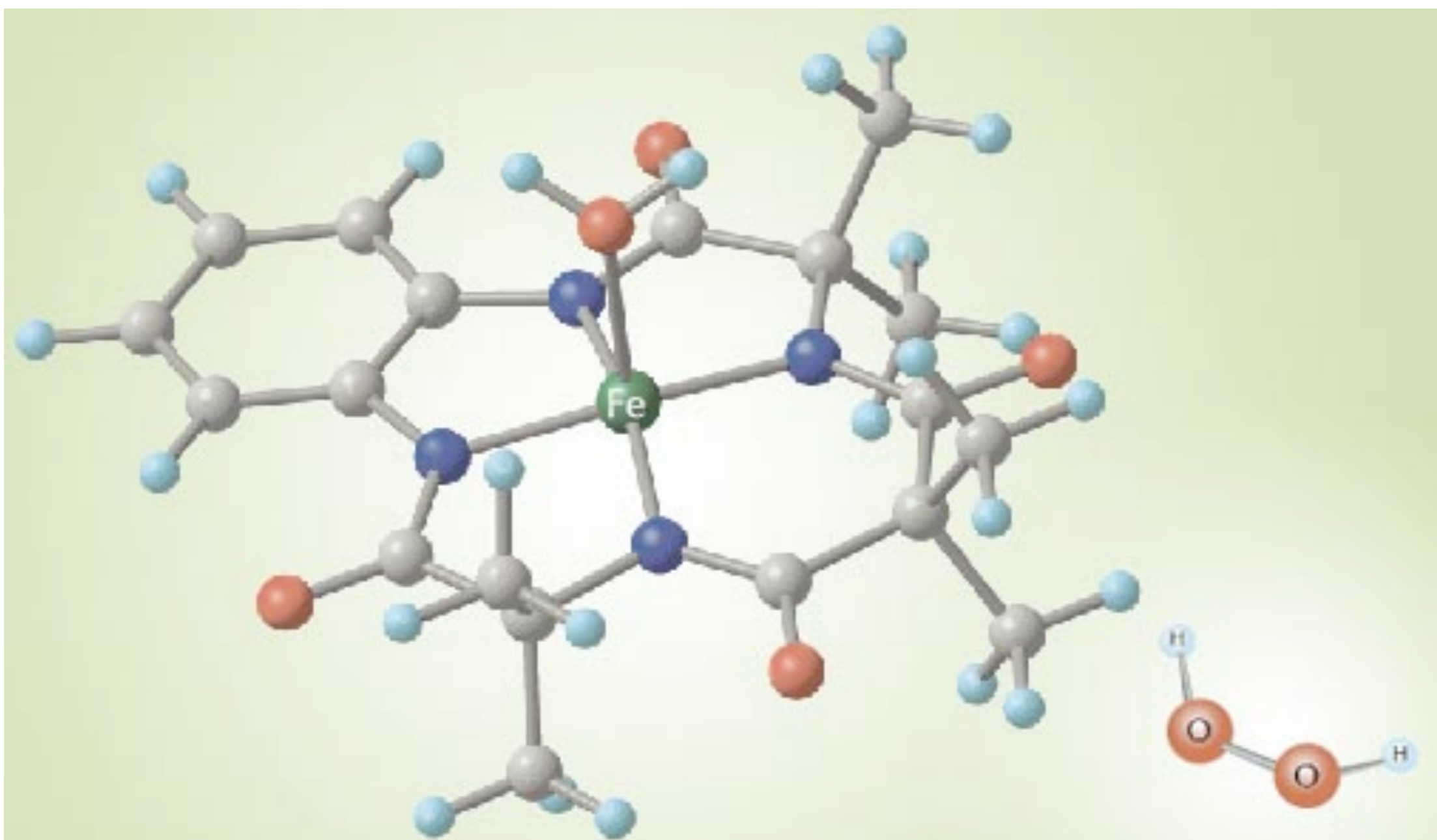
L = Ligand

Our Catalytic Thinking... Evolved Naturally

- Inspired by the way natural enzymes (catalysts) in the body break down toxins.
- A “designer” molecule that harnesses oxidation chemistry to cost-effectively obliterate pollutants...



'Designer' Molecule



The prototype TAML activator or a relative *plus* hydrogen peroxide

Classic Iterative Design

20 years in development

guided by

the Principles of Green Chemistry

Classic Iterative Design

Re-Design Design

1. Design catalyst system thought to be suitable -
elementally benign

Re-Modify Modify

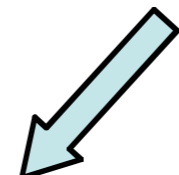
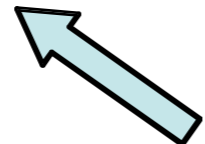
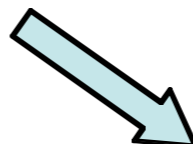
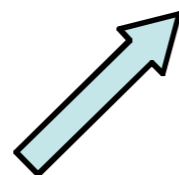
4. Modify weak site
to be more robust

Test Re-Test

2. Oxidize complex
until decay occurs

3. Characterize degradation products and
identify weak site

Break Re-Break

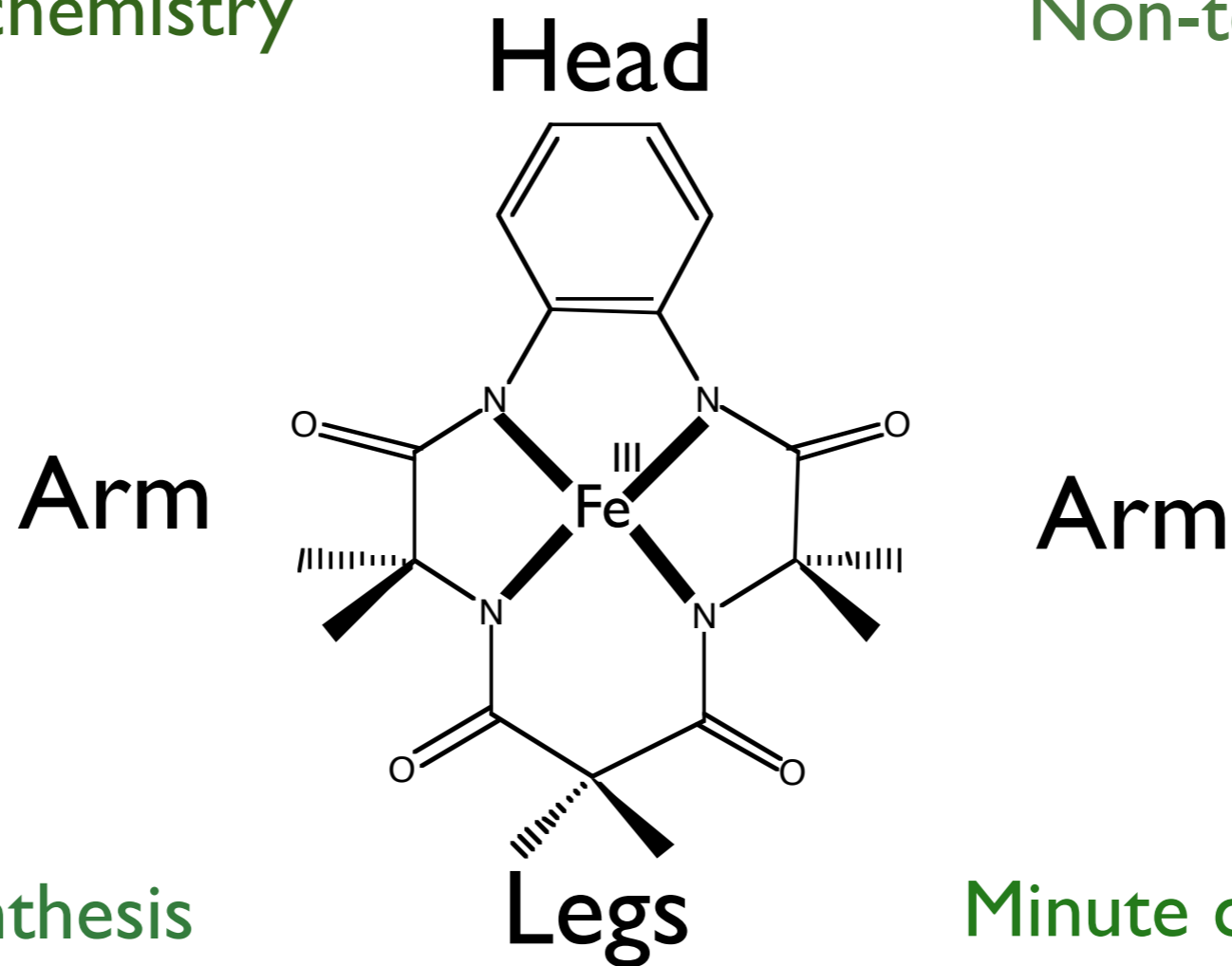


Molecular Assembly

Molecular Assembly

Mimics enzyme chemistry

Non-toxic elements



Plug and play synthesis

Minute concentrations

Capable of producing “fire in water”...

Fire in Water

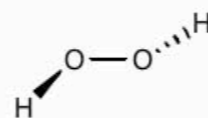
H_2O_2 Oxidant

Fe-TAML
Catalyst

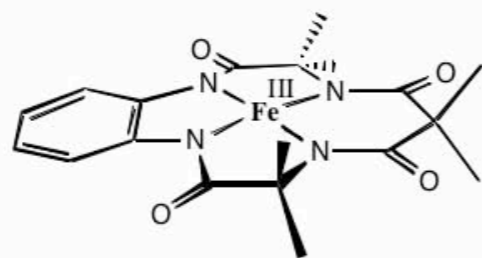
Target Pollutant

Fire in Water

H₂O₂ Oxidant



Fe-TAML
Catalyst



- Robust
- Selective
- Eco Friendly



Target Pollutant

Market Segments aka Real World Challenges

- Industrial & Municipal Waste Water
- Drinking Water
- Soil & Groundwater Remediation
- Cleaning & Decontamination
- Industrial Processes

Intellectual Property Estate

- IP includes patents covering:
 - Composition of Matter
 - Fields of Use
 - Methods of Making / Synthesis
- TAML is trademarked

Green Cash Discipline

No money, no mission.

Keep the Faith

“Never doubt
that a small group of thoughtful, committed citizens
can change the world
Indeed,
its the only thing that ever has.”

--Margaret Mead