

Erwartungen von Ärzten an REACH

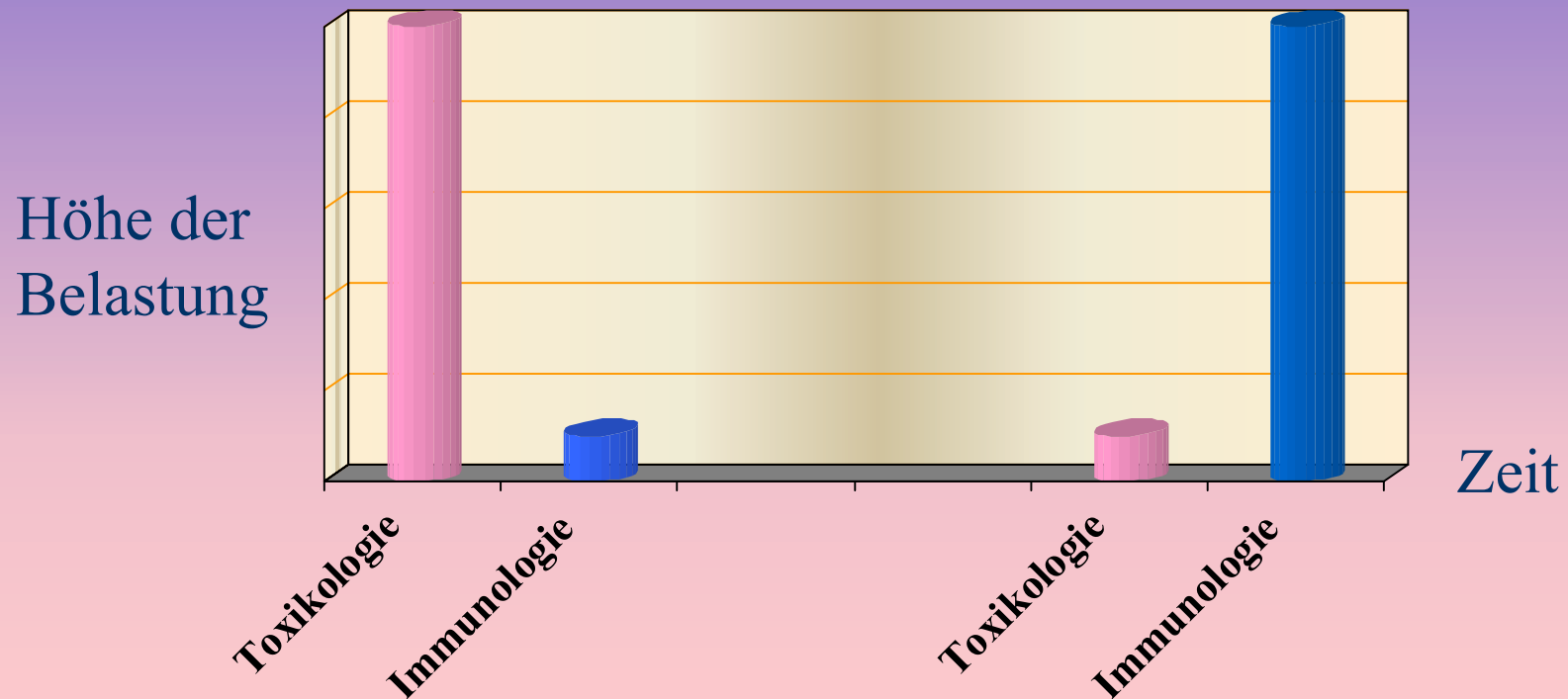
K. E. Müller

Europapolitischer Workshop

21. – 23.01.2005

Loccum

REACH erweitert bisherige toxikologische Konzepte nicht !



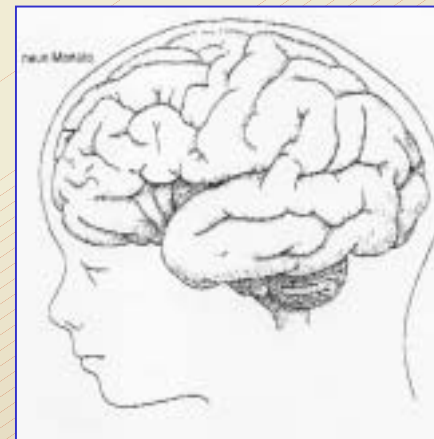
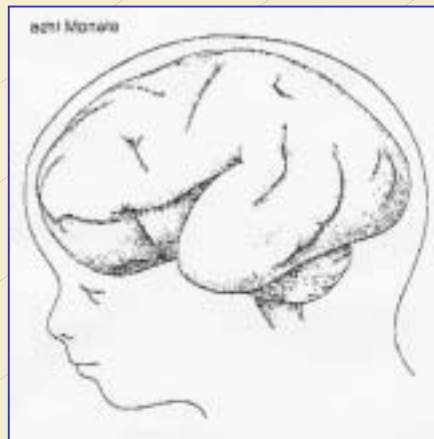
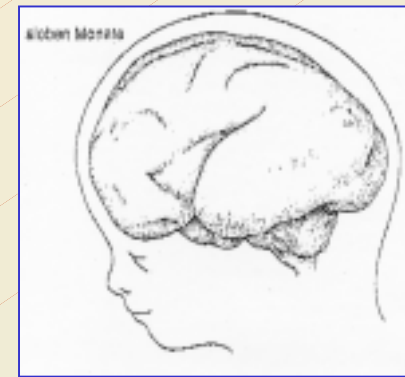
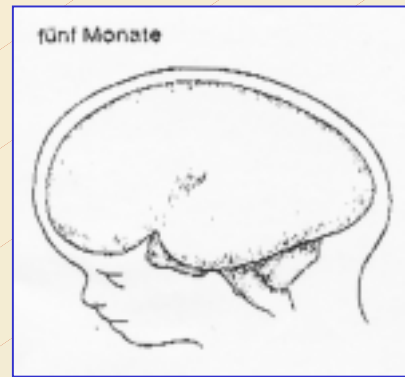
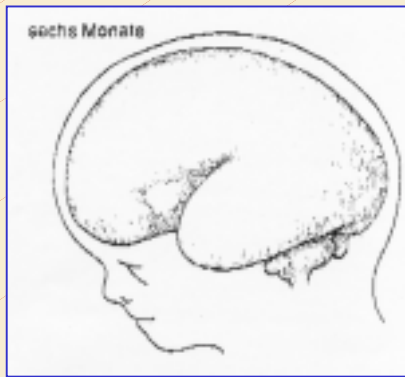
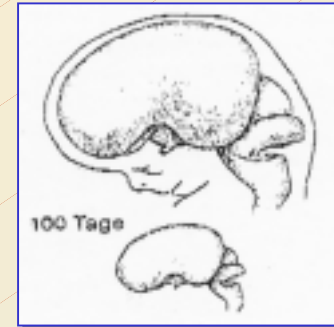
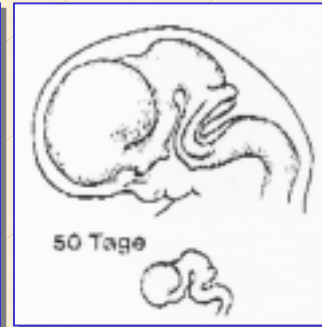
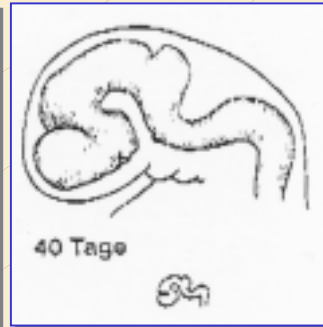
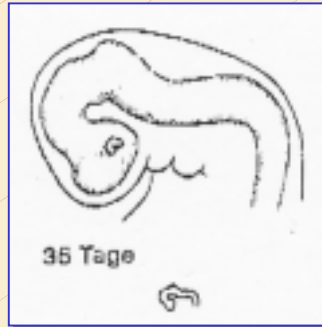
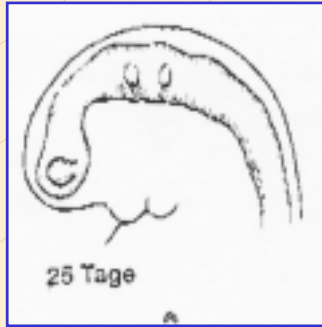
Alter - Geschlecht



Aktivität



Hirnentwicklung



Metabolisierungsstörungen

Metabolic failures

- **Pyrrol**
- **Histamin**
- **Porphyrine**
- **Stickoxide**
- **Laktat**
- **Pyruvat**
- **Säure- Basen Haushalt**

- ***Pyrrole***
- ***Histamine***
- ***Porphyrin***
- ***Nitric Oxide***
- ***Lactate***
- ***Pyruvate***
- ***Acid-base equilibrium***

Metabolisierungsstörungen

Metabolic failures

Intoleranz von:

- **Laktose**
- **Laktulose**
- **Glukose**
- **Fruktose**
- **Gluten**

Intolerance of:

- *Lactone*
- *Lactulose*
- *Glucose*
- *Fructose*
- *Gluten*

Ernährung

**Die Anzahl freier Elektronen der
Mikronährstoffe ist in den
zurückliegenden 50 Jahren
drastisch gesunken.**

Polymorphismen

**52 jährige Frau, eineiiger Zwilling.
Multiple Intoleranzreaktionen.**

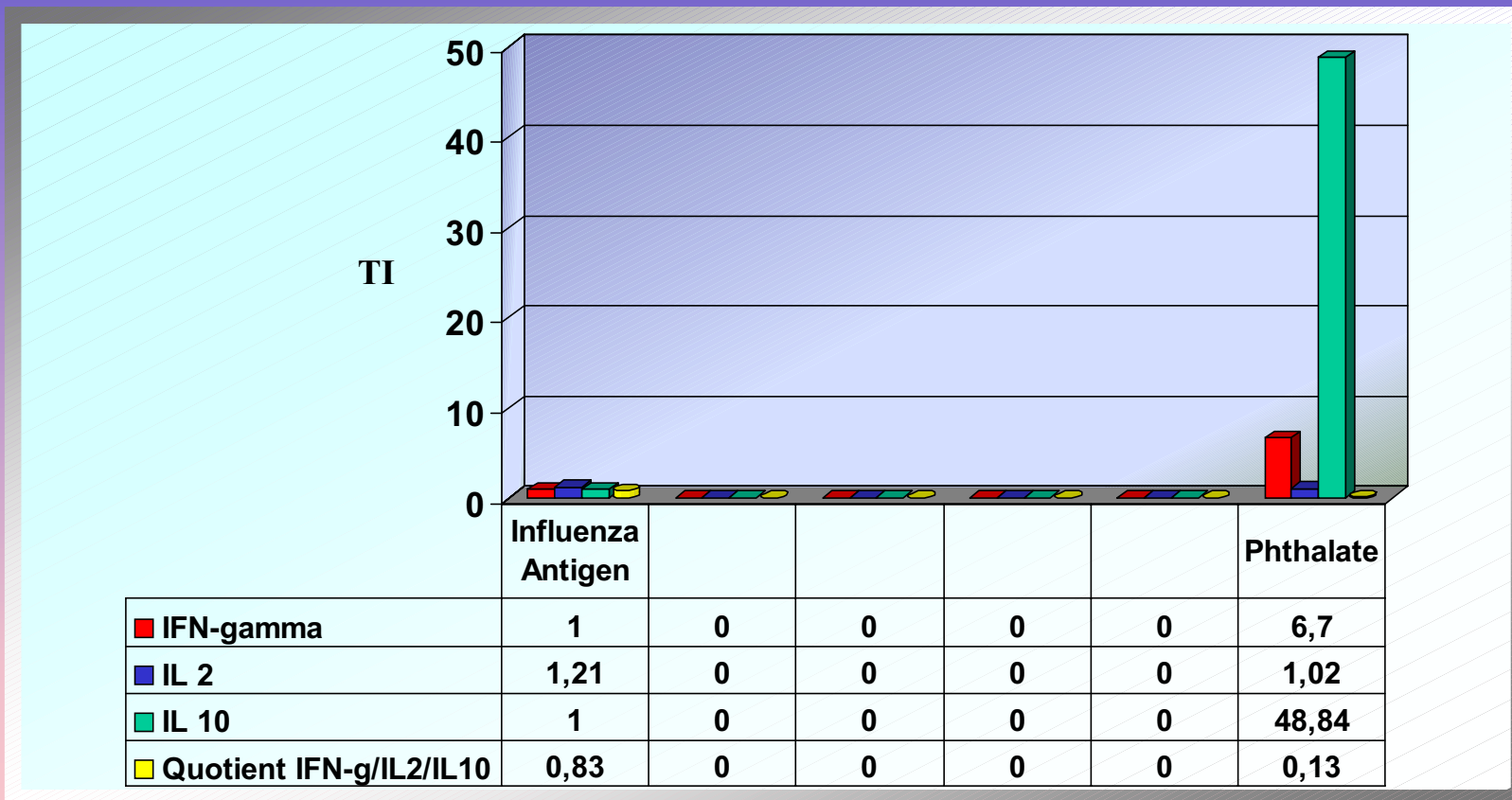
Gentest:

- **CYP II A6** : verringerte Entgiftung
- **CYP II E1** : fehlende Entgiftung

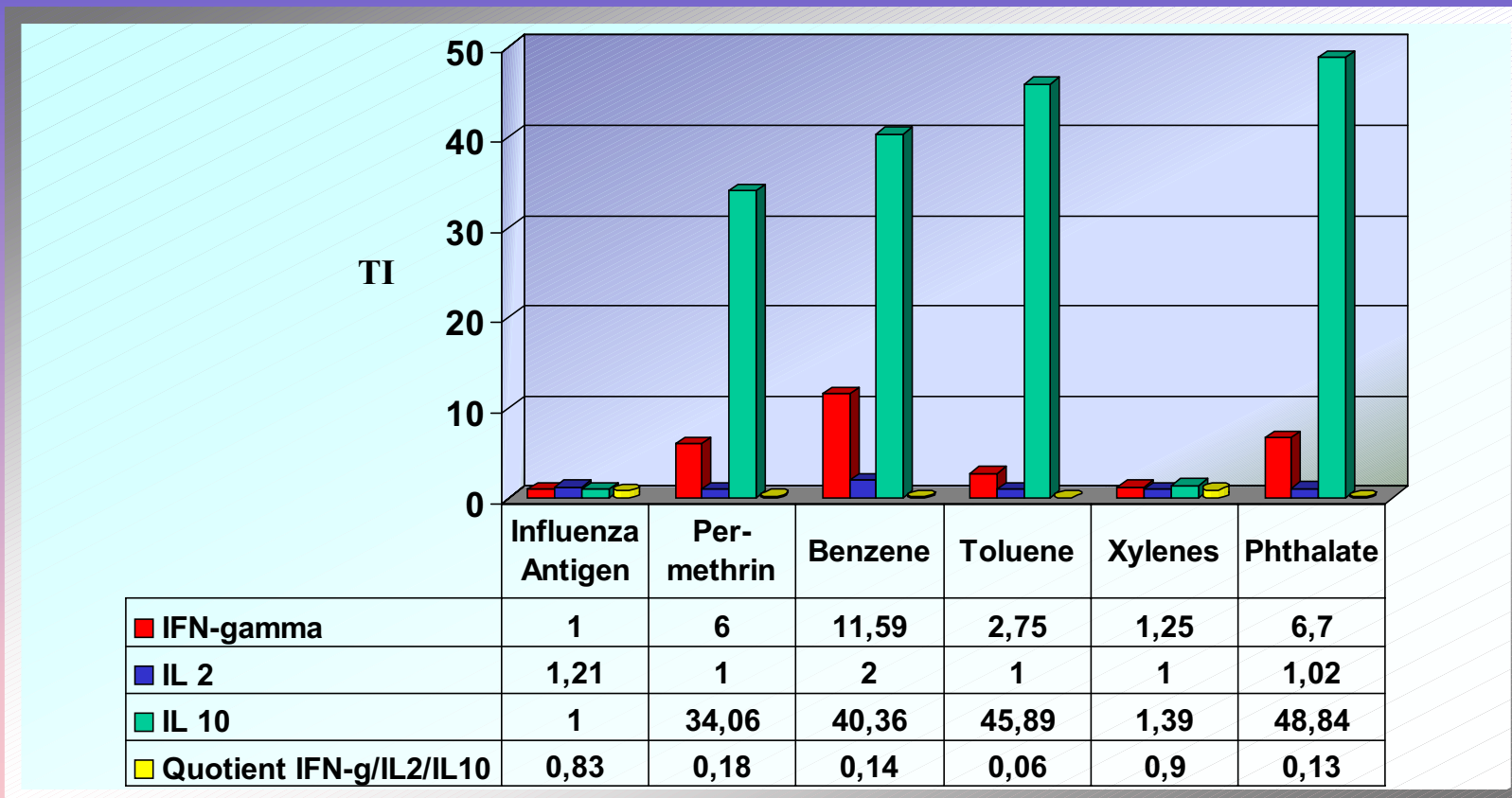
- **GST M1** : fehlende Entgiftung
- **GST T1** : fehlende Entgiftung
- **GST P1** : verringerte Entgiftung

- **NAT2** : langsame Acetyliererin

Immunologische Integrität



Immunologische Integrität



Endokrine Integrität

Affinität von 200 Pestiziden an
Östrogenrezeptoren (Kojima 2004):

Aktivierung:

ER- ζ = 47

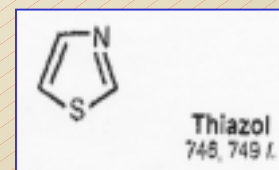
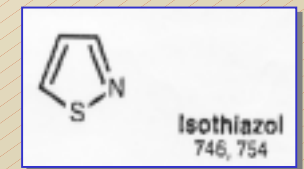
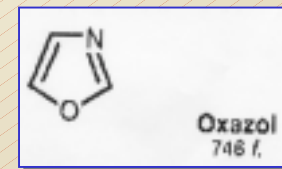
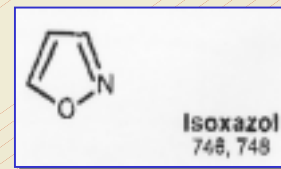
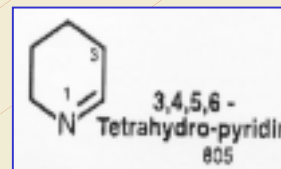
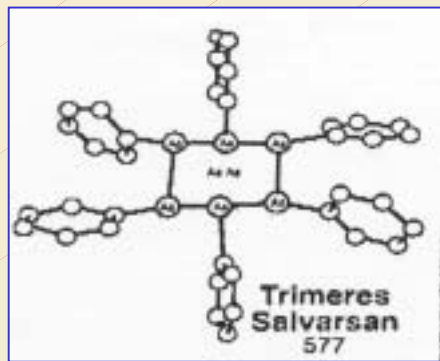
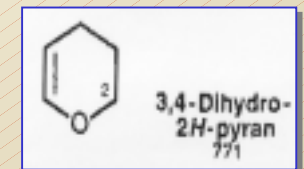
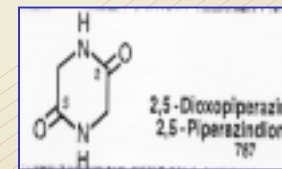
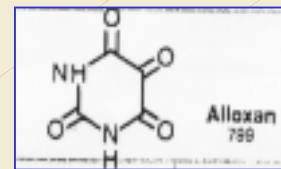
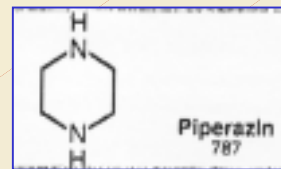
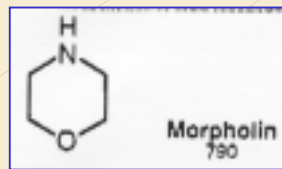
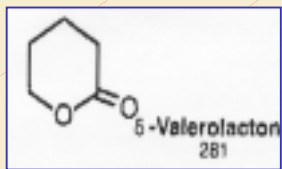
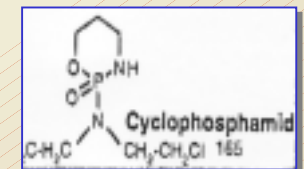
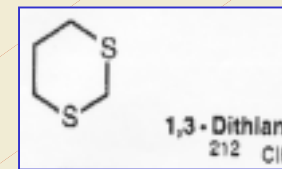
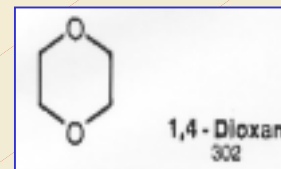
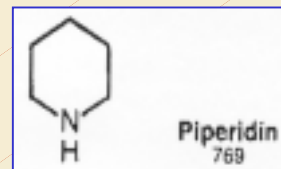
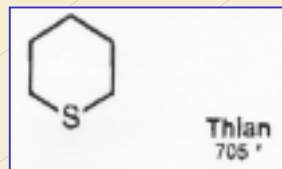
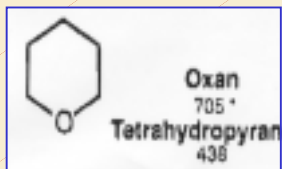
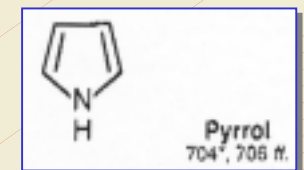
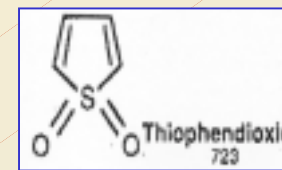
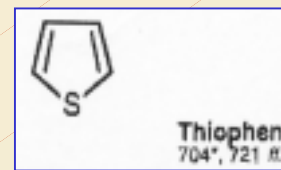
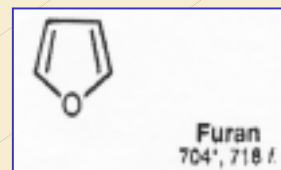
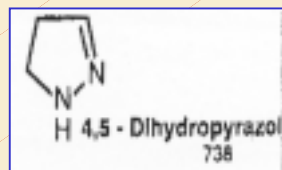
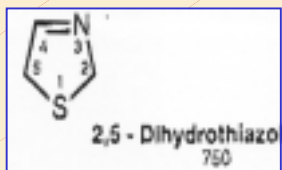
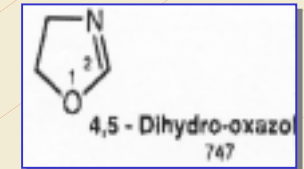
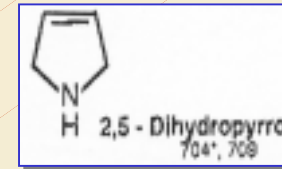
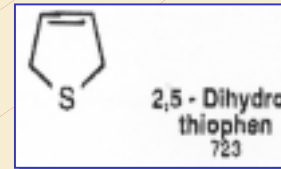
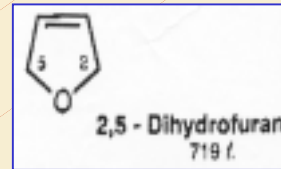
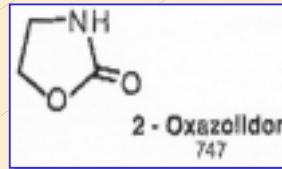
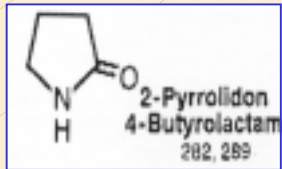
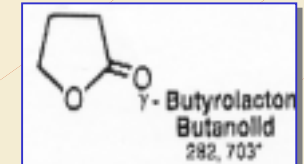
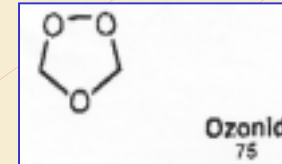
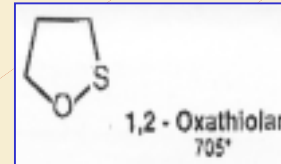
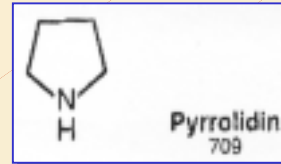
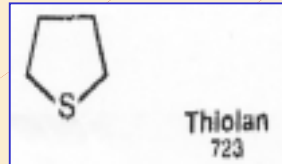
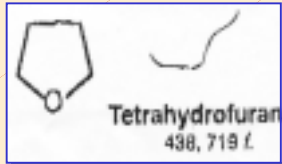
ER- η = 33

Hemmung:

ER- ζ = 5

ER- η = 2

Kybernetik



Unabhängigkeit von Forschung

Die Rolle der *Drittmittel*

Wissenschaft und Macht

Signifikanz und Irrtum

Sound science versus junk science

Systematik der follow - up Forschung

Finanzierung der Grundlagenforschung

Nihil ne nocere

**Unkenntnis und Risiko müssen durch
ärztliches Handeln und Forschen
zu Wissen und Sicherheit führen.**

Ende

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