Study on biradical based complex structure:

A possible way to find out natural nanoparticles from the human body

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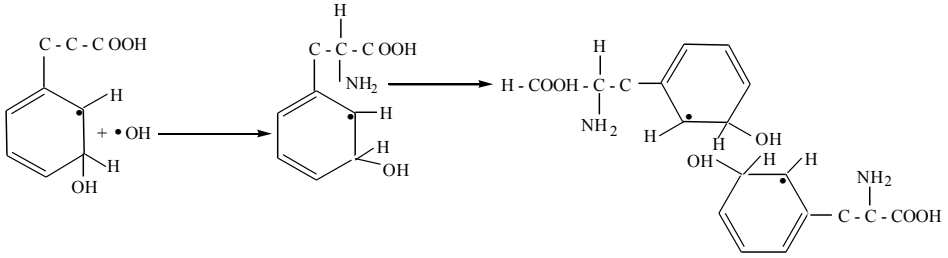
Background

This article is dealing with the use of acetosal and aromatic amino acids to scavenging mercury radicals in the living body. These aromatic compounds should be in the form of biradicals before then we can use their magnetic forces to trap gaseous Hg radicals. The Hg^{*+} radicals trapped in the paramagnetic field of biradicals by means of applying series of scavengers rubbed on whole surface of the body.

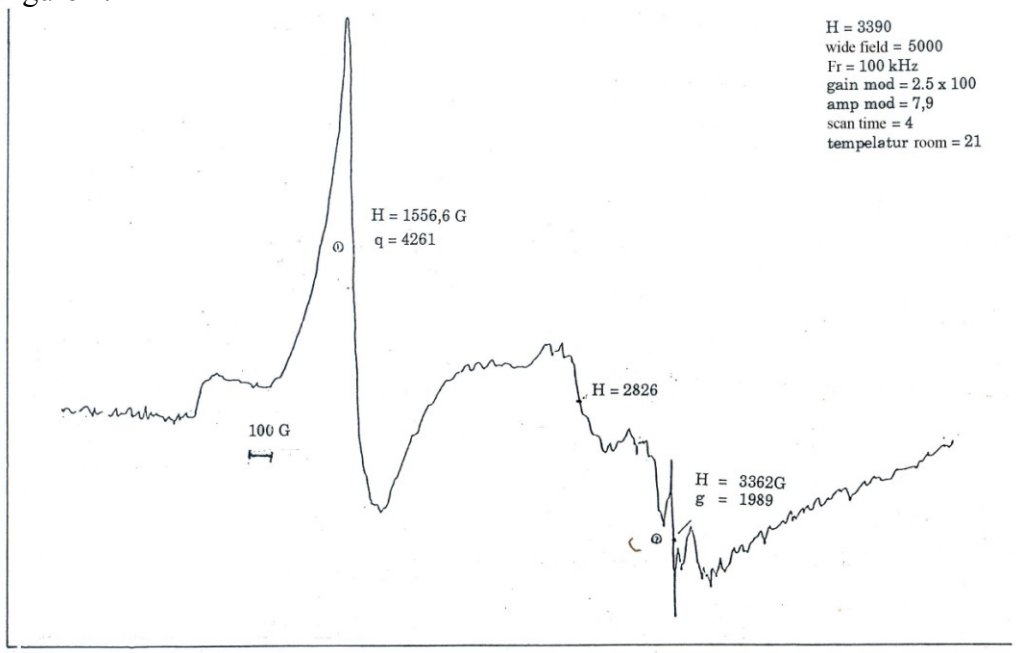
Biradicals is known to be self association of radical-radical without covalent bonding R^*R^*------ R^*R^*. The concept of biradicals is firstly announced by Edward M. Kosewer in 1967, and it was intensively reviewed by Zahar on her doctoral dissertation 1993. Zahar tried to investigate the isolation products of sunrays reaction X-aromatic + H_2O_2 in tridestilate water (metal free), modified from Fenton reaction. She indicated an analogy of transition biradical products of HO-X cyclohexadienyl in "cage" (Quantum Dots conjugates) with isolation products of gamma irradiated X-aroamatic tridestilate in aqueous solutions. Further investigation of this isolated biradicals products of 60 grey gamma irradiated 3 x 10^{-5}M L-Tyrosin and 3 x 10^{-5}M L-Phenylalanin in tridestilate water resulted translucent shell products $(Hydroxyl\text{-}X\ Cyclohexadienyl)_n$.

Figure 1.



When this $(Hydroxyl\text{-}X\ Cyclohexadienyl)_n$ was observed using ESR (Electron Spinning Resonance) apparatus, the data indicated that this biradical is not hydrogen radicals (H^+). The ESR figure can be seen below:

Figure 2.



Sample $5X10^{-4}$ nitrobenzene in aqueous solution, showing trantition line $\Delta m = 2$, H=1556,6.

This ESR data confirmed that compounds contained in rubbing waste shell showing biradicals signals. This Biradicals are interaction intermolecular or atoms of radical-radical within their own molecules, and providing more stable product as the following:

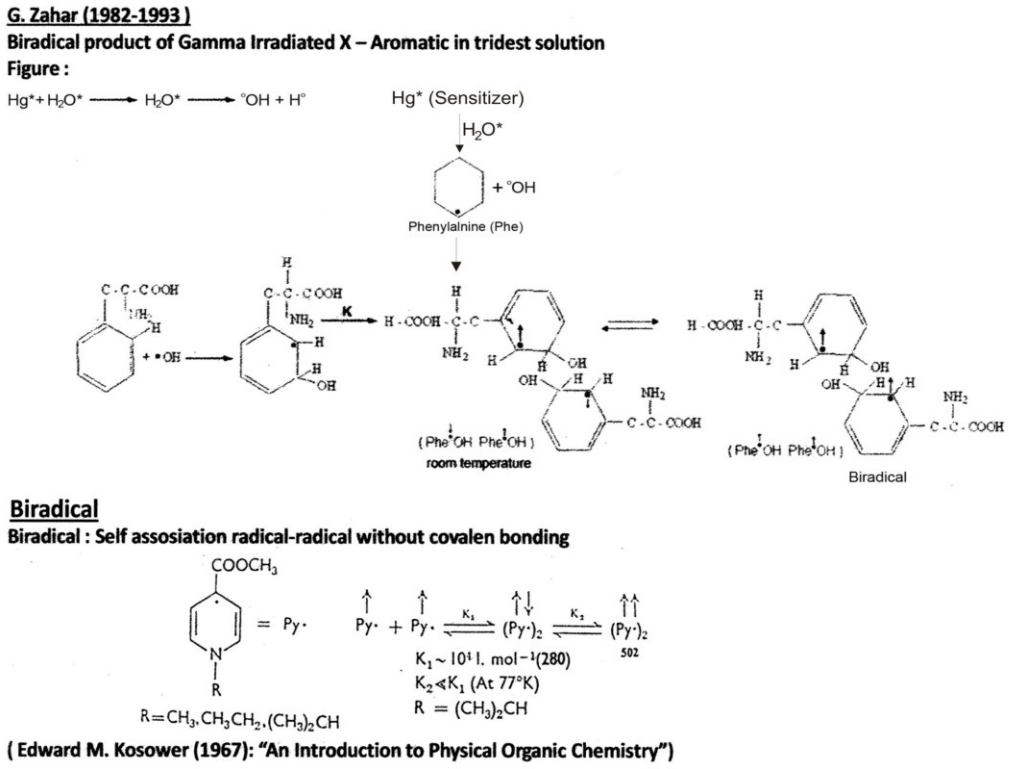
Figure 3.

$$XAr \cdot OH + XAr \cdot OH \text{ -----> } XAr \cdot OH\ XAr \cdot OH$$

where X-Ar = NO_2 Aromatic

Selective free radicals $\cdot H$, $\cdot NO$, $H2O2^{\cdot}$, $NO2^{\cdot}$, $\cdot OONO, NO2^{\cdot}$, introduced to peptide/protein or free amino acid, resulted aggregation while their spin interacted with intermolecular in a ”cage”(Quantum dots). Since mercury (Hg) is a heavy metal enables to behave as radical in gaseous phase at room temperature, the similar intermolecular Quantum Dots with paramagnetic potential may enable to be induced when this metal is introduced to any aromatic compounds such as amino acid, peptide as well as DNA and RNA. The Hg^{*+} may react to aromatic compounds produce aggregates in ligand or chelation due to paramagnetic field between two radicals. Being a heavy metal with relativistic effect, the high speed electron 65^2 will form $(Hg^{*+})2^{+}e^{-}$ when it absorb UVC. This make the mercury is becoming transportable in the blood stream due to it’s situation trapped in biradicals compounds. This make easier way to eliminate Hg^{*+} from the living system by pulling out through the skin when the skin is rubbed with HO^{*}-Asetosal as well as other scavengers such as hot urea.

Figure 4.



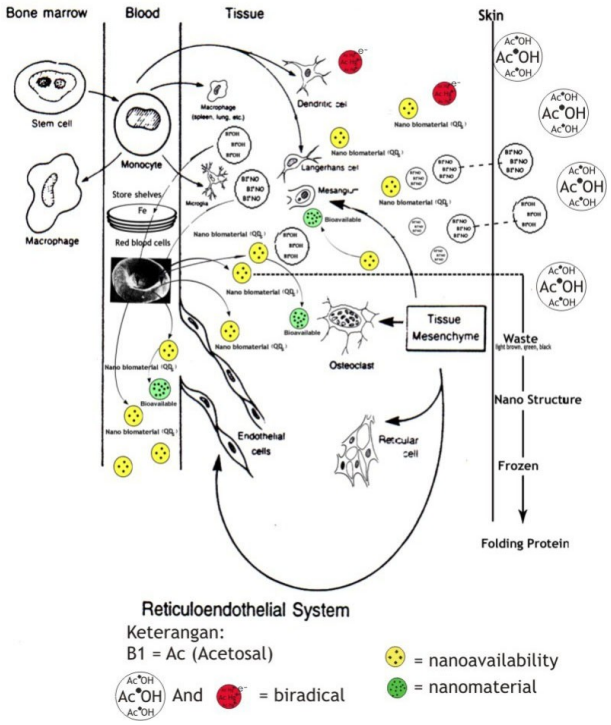
(Edward M. Kosower (1967): "An Introduction to Physical Organic Chemistry")

Mercury is sensitizer which may induce more free radicals when these metals absorbing UVC. This means mercury is very-very harmful, not only due to its high reactivity, but also because to it potential to induce surrounding compounds to become free radicals. The damage of ozone layer at the stratosphere make more UVC comes into the surface of the earth making Mercury more harmful to living system.. The harmful of Mercury for human health thus should be eliminated by means of scavengers rubbed through out the skin.

Developing Hypothesis and Proposing Studies

The HO-Acetosal will spread out for the act of ferromagnetic following it's absorption through surface of the skin and reaching membrane blood cells. The situation then makes gaseous mercury radicals which tend to ovoid ferromagnetic environment to be trapped (diluted) in the Quantum Dots biradicals floating in the blood stream. As the blood flowing in the peripheral blood vessels, the mercury as well as other heavy metals easily pulls out from its position by applying the sequence of scavengers after HO-Acetosal rubbing (Figure 5). The waste has specific character that is growing complex crystal when it is either freezing at -20^{o}C or drying at room temperature (Figure 6). This study promote hypothesis that nano sized complexes molecular block containing Hg may become models aimed for further understanding and proving of the ideas nano sized molecular blocks having basic capacity to generate higher order in the living system.

Figure 5.
Depicting the detoxification process.



The waste will contain nanoparticulates enable to induce polymerization of amino acids as well as other biological material to develop into complex and unioque structure as seen in the following figure.
figure 6.