

HOMEOPATHY A PERSONALIZED NANOMEDICINE AND THE MEDICINE OF FUTURE



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AUTHOR OF:

1. **The Ray of Civilization** – *Philosophy, Science, Religion, Spirituality, Art & Literature, Evolutionary genetics and Medicine* (2019)
2. **Nanodynamics** – *Nanoscience, Homeopathy, Physical sciences, Nanomedicine* (2015)
 - German edition 2019
3. **The Nucleus** – *Lectures on Chronic Diseases and Miasms*(2004)
 - Russian edition 2007
 - Turkish edition 2018
4. **New Lights** – *Lectures on Homeopathy and Philosophy*(2002)

RESEARCH PAPERS - NANOTECHNOLOGY

1. **Rajendran ES.** *Homeopathy seen as personalised nanomedicine.* **Homeopathy 2019; 108: 66-70.**
2. **Rajendran ES.** *Nano pharmacological aspect of homeopathic drugs – a comparative study of different scales of ultra-high dilutions based on HRTEM analysis and NP characterization of homeopathic drug Natrum muriaticum 6C-CM and LM1–LM30.* **Saudi J Med Pharm Sci 2017;3:89–106**
3. **Rajendran ES.** *Homeopathy a nanomedicine – identification and characterization of NPs in Hypericum perforatum 6C, 30C, 200C, 1M, 10M, 50M and CM.* **Int J Dev Res 2017;7:12425–12431**
4. **Rajendran ES.** *Homeopathy a material science! Nanoparticle characterization of Aurum metallicum 6c, 30c, 200c, 1000c, 10000c, 50000c and 100000c.* **Int J Curr Res 2017;9:48923–48927**

5. Rajendran ES. *Field Emission Scanning Electron Microscopy (FESEM) and Energy Dispersive Spectroscopy (EDS) studies of centesimal scale potencies of the homeopathic drug Lycopodium clavatum.* **Am J Homeopath Med 2015;108:9–18**

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RESEARCH PAPERS - GENETICS

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- 6. Khuda-Bukhsh AR.** *Current trends in high dilution research with particular reference to gene regulatory hypothesis.* **Nucleus 2014; 57:3–17**
- 7. Khuda-Bukhsh AR, Sikdar S.** *Condurango 30C induces epigenetic modification of lung cancer-specific tumour suppressor genes via demethylation.* **Forsch Komplement Med 2015;22:172–179**
- 8. Khuda-Bukhsh AR, Bhattacharyya SS, Paul S, Dutta S, Boujedaini N, Belon P.** *Modulation of signal proteins: a plausible mechanism to explain how a potentized drug Secale cor 30C diluted beyond Avogadro's limit combats skin papilloma in mice.* **Evid Based Complement Alternat Med 2011;2011:286320**

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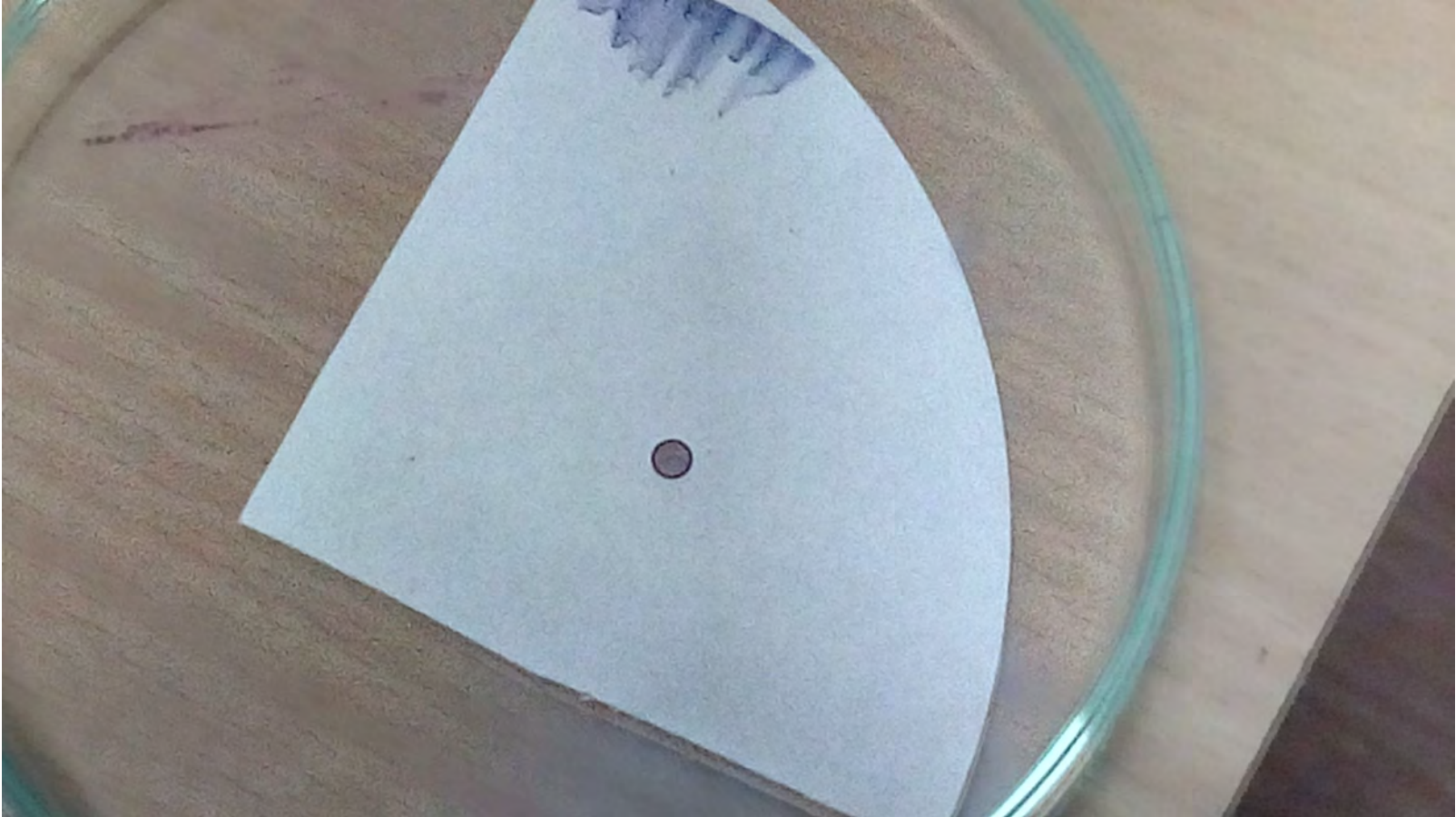
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HRTEM AND EDS - MG UNIVERSITY, KOTTAYAM



TEM GRID



FESEM AND EDS - IISC, BANGALORE



IISC BANGALORE - RESEARCH SUPPORT TEAM

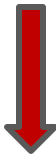


NANOPARTICLE CHARACTERIZATION

- The research during 2011-20 led to the **discovery of Nanoparticles(NP)** in all ultra-high dilutions (6C–CM & LM1–LM30), which confirmed Homeopathic potencies have material content in nanoscale, not a placebo therapy as accused earlier
- More than 30 homeopathic drugs (C & LM) of metals, minerals, plants, imponderabilia, nosodes, etc. 200+ samples were analyzed

INTRODUCTION

- Homeopathic medicines are prepared by the process called potentisation

Product 

Potency

Decimal (1:9)

- The potencies  Centesimal (1:99)
50 millesimal (1:50000)

- Concept of potentization is the core of controversies related to homeopathy

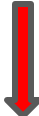
NANOSCIENCE

- **1nm =1/billionth of a meter or 1/1000 of a micron**
- **Nanotechnology refers to the manipulation of matter on atomic and molecular level**
- **Electron microscopy – helps to see nanoscale particles**
- **Energy Dispersive Spectroscopy – helps to analyze the elementary composition of particles**
- **Dynamic Light Scattering (DLS) – Used to characterize nanoparticles.**

EQUIPMENTS USED FOR THE STUDY

- **High Resolution Transmission Electron Microscope (HRTEM) and Energy Dispersive Spectroscopy (EDS)**
- **Field Emission Scanning Electron Microscope (FESEM) and Energy Dispersive Spectroscopy (EDS)**
- **Dynamic Light Scattering Technique**

NEED OF STUDY

- **Know the contents of Hom potencies**
 **there by**
- **Validate the scientific nature of Homeopathy**
- **No particle in Hom potencies !!!!!!!!!!!!!!!**
- **Presence of particles ??????????**

Homeopathy Seen as Personalised Nanomedicine

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Homeopathy

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Abstract

Keywords

- homeopathy
- nanoparticles
- potentisation
- genetics
- personalised nanomedicine

Among all the discoveries of Hahnemann, potentisation was the most important, though controversial. The curative effect of individualised homeopathic potencies is empirical but inexplicable by the conventional principles of science. This paradox is a highly contentious topic of debate between rationalists and homeopaths. Recent discoveries relating to the nano-particulate nature of homeopathic ultra-high potencies and their potential effect on individual gene expression give new insights into this complex issue. It is concluded that homeopathy may be viewed as 'personalised nanomedicine'.

Introduction

In homeopathy, trituration and succussions are involved in the process of potentisation. Samuel Hahnemann's discovery of potentisation gives homeopathy a unique identity. This was not an accidental discovery such as that of gravitational force by Isaac Newton. We know now that potentisation is a landmark in the history of therapeutic medicine. A close study of Hahnemann reveals that this discovery was the outcome of a gradual step-by-step process that began in 1797. He narrated his experience of treating a patient suffering from abdominal colic with the drug *Veratrum album* in grain doses. Hahnemann prescribed the drug powder containing 4 grains daily for 4 days, but the patient took all the medicine in 2 days.¹ Very shortly, the patient experienced a life-threatening aggravation of his condition.

This experience paved the way for minimising the quantity of medicine prescribed to patients during the 1801 epidemic of scarlet fever in Germany. Hahnemann prescribed one drop of diluted *Belladonna* as a dose containing, in every drop, a five millionth quantity of a grain. By prescribing the same dose, he achieved excellent results in the cure and prevention of scarlet fever. Hahnemann continued his experiments with other medicines as well, such as: *Ignatia* (1/1,200,000); *Veratrum album* (1/4,800,000); *Nux Vomica* (1/1,200,000 to 1/2,400,000); *Pulsatilla* (1/80,000); *Capsicum* (1/1,200,000); *Chamomilla* (1/85,000,000 to 1/3,840,000,000); *Cocculus* (1/3,600,000); *Belladonna* (1/120,000); *Drosera* (1/200,000); *Hyoscyamus* (1/100,000,000).²

The success in effective therapy using high dilutions encouraged Hahnemann to discover, a decade later, the process of potentisation of drugs based on the centesimal scale. Having discovered the theory of potentisation, Hahnemann started using 30C potency for conducting drug proving experiments and for treating patients. Potentisation is a process in which medicinal substances are triturated or succussed in the medium of sugar or milk or 90% ethyl alcohol in a specific ratio; that is, 1:99 in centesimal scale and 1:9 in decimal scale. A proving experiment was performed preferably with 30C potency.³ In his last years of life, Hahnemann discovered a wholly new scale: the LM scale, based on 1:50,000 dilution, which ranges from LM1 to LM30.⁴

As he could not scientifically substantiate the process of drug preparation and the therapeutic action of homeopathic potencies, Hahnemann proposed a reasoning that he called a 'conjecture' (being doubtful). Hahnemann proposed a hypothesis that, in the process of potentisation, there could be development of hidden 'dynamic powers' of the drug substance. Further, he viewed that these dynamic powers of the potency might act on the 'vital force' of the patient in its curative action. Even today most homeopaths find it difficult to remove themselves from this hypothetical statement of Hahnemann.

The hypothesis of Avogadro, proposed in 1811, defines the number of atoms in one mole of any substance as equal to 6.022×10^{23} . The term 'Avogadro's number' was first used by French physicist Jean Baptiste Perrin in 1909. The accurate determinations of Avogadro's number happened only after the American physicist Robert Millikan measured the charge of an

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Field Emission Scanning Electron Microscopic (FESEM) and Energy Dispersive Spectroscopic (EDS) Studies of Centesimal Scale Potencies of the Homeopathic Drug *Lycopodium clavatum*

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Abstract Background: Homeopathy is a therapeutic method discovered by Samuel Hahnemann, MD, in 1790. Homeopathy often makes use of medicines prepared at such high dilutions that the physical existence of even a single molecule of the source substance is said to be theoretically impossible. Nevertheless, these drug products appear to have biological effects. Therefore, we sought to examine the potential physical properties of a common homeopathic medicine, *Lycopodium clavatum*.

Methods: Selected dilution factors (potencies) of *Lycopodium clavatum* were studied with the help of Field Emission Scanning Electron Microscopy (FESEM) and Energy Dispersive Spectroscopy (EDS) for the identification of particles and their elementary composition.

Results: Nanoparticles were detected in all potencies tested. Carbon and oxygen were the two elements present in all sample particles.

Conclusion: The present study confirms the presence of nanoparticles in multiple potencies of the common homeopathic medicine *Lycopodium clavatum*. This data adds to the body of evidence concerning the presence of source material in high potency homeopathic medicines.

Original Article

An evaluation of Avogadro's number in the light of HRTEM and EDS studies of high dilutions of *Ferrum metallicum* 6, 30, 200, 1M, 10M and 50Mc

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Abstract

As a therapeutic tool high dilutions (HDs) are always at the center of controversies due to problems to validate them as a function of Avogadro's number. Nevertheless, homeopathy is practiced around the world as a complementary and alternative medicine. The present study sought to evaluate HDs of homeopathic drug *Ferrum metallicum* (*Ferr*) 6, 30, 200, 1M, 10Mc and 50Mc, all of which except for 6c surpass Avogadro's number. Using HRTEM and EDS it was conclusively shown that: 1) all the investigated HDs of *Ferr* contained plenty of nanoparticles (NPs); 2) the size of NPs were within the quantum dots (QD) size range, except for 50Mc, in which larger particles were found (12.61nm); 3) NPs contained iron in various weight percentages; 4) the weight percentage of iron was highest in HDs 10Mc and 50Mc.

Keywords: Homeopathy, High dilutions, *Ferrum metallicum*, Nanoparticles, HRTEM, EDS, Quantum dots, Avogadro's number

Original Research Article

Nano Pharmacological Aspect of Homeopathic Drugs - A Comparative Study of Different Scales of Ultra-High Dilutions Based on HRTEM Analysis and NP Characterization of Homeopathic Drug Natrum Muriaticum 6C – CM and LM1 - LM30

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Abstract: The author's earlier publications have shown the presence of nanoparticles (NPs) of the original drug material in all the higher dilutions of homeopathic drugs; viz, *Lycopodium* and *Ferrummetallicum*. The present study is to compare the two different scales of potencies discovered by Samuel Hahnemann; with the help of HRTEM and EDS. It is found that:- i) all the high dilutions (HDs) of *Natrummuriaticum* (*Nat mur*) contain NPs; ii) the size of NPs is within quantum dots (QD) size range, except for 6C, where larger particles are found (14nm); iii) NPs contain Sodium (Na) and Chlorine (Cl) in various weight percentages; iv) The smallest NPs in higher concentration are present in 50 millesimal (LM) scale; v) The weight percentage of Na and Cl is very high (more than 99%) in all the potencies of LM scale except in LM6. The combined weight percentage of Na and Cl is less than 1% in all centesimal scale of potencies except in CM, where it is 1.09%; vi) The presence of elements other than Na and Cl is many in centesimal scale. The presence of other elements has been negligible in LM scale and vii) The comparative analysis shows that LM scale HDs are rich in the NPs than in centesimal scale HDs.

Keywords: Homeopathy, High dilutions, *Nat mur*, Nanoparticles, HRTEM, EDS, Quantum dots, Avogadro's number, Angstrom, Centesimal scale, 50 millesimal scale (LM scale)



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RESEARCH ARTICLE

HOMEOPATHY A MATERIAL SCIENCE! NANOPARTICLE CHARACTERIZATION OF *AURUMMETALLICUM* 6C, 30C, 200C, 1000C, 10000C, 50000C AND 100000C

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Quantum Dots (QDs), Homeopathic
potencies, Trituration, Succussion.

ABSTRACT

Background: In the earlier research publications of the author he has identified the presence of nanoparticles (NPs) of the drug material in all the higher dilutions of homeopathic drugs; viz, *Lycopodium* and *Ferrummetallicum*.

Method: The present study is done with the help of HRTEM (High Resolution Transmission Electron Microscope) and EDS (Energy Dispersive Spectroscopy).

Result and Conclusion:

1. The analysis of homeopathic drug *Aur met* (Gold) shows the presence of nanoparticles of Gold in all the potencies studied, i.e. 6c, 30c, 200c, 1000c, 10000c, 50000c and 100000c
2. Nanoparticles of *Aur met* were found mostly in Quantum Dots scale in all the dilutions.
3. The study proves that homeopathy is really a material science and not merely an energy medicine or placebo therapy as considered earlier.



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Full Length Research Article

HOMEOPATHY A NANOMEDICINE- IDENTIFICATION AND CHARACTERIZATION OF NPS IN HYPERICUMPERFORATUM 6C, 30C, 200C, 1M, 10M, 50M AND CM

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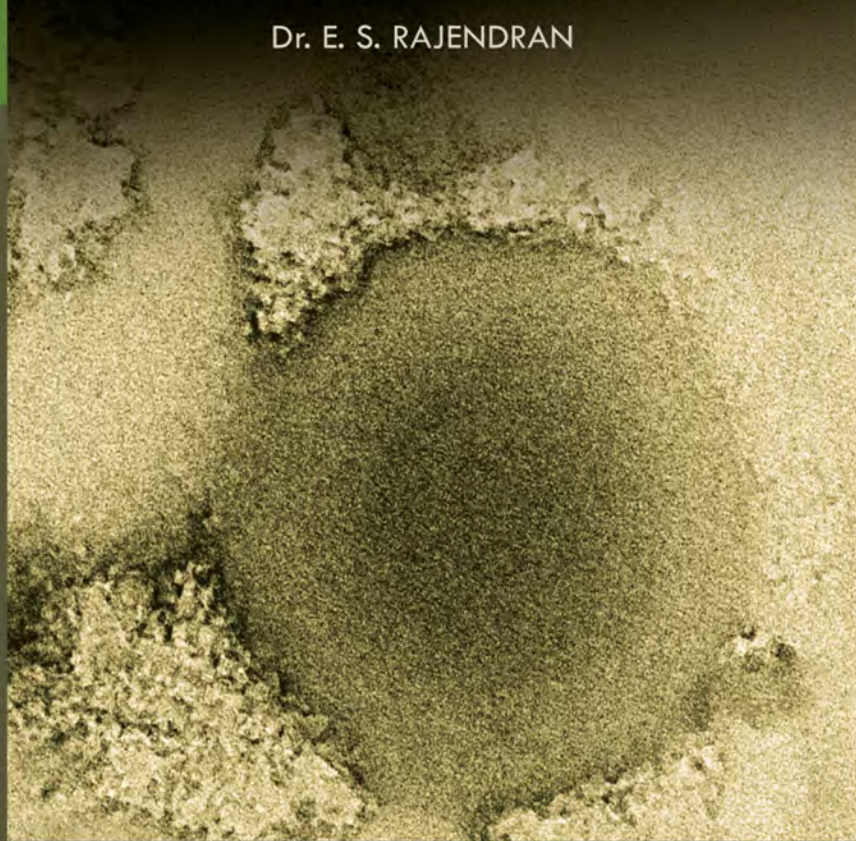
Homeopathy, Potencies,
ultra high dilutions,
Hypericumperforatum,
FESEM (Field Emission Scanning Electron
Microscope),
EDS (Energy Dispersive Spectroscopy),
Centesimal scale,
Avogadro's number.

ABSTRACT

Homeopathy is a therapeutic method discovered by DrSamuel Hahnemann and is being practiced around the world. The validity of the science of homeopathy was questioned due to the lack of evidence of any material content in its ultra-high dilutions. The current paper as well as the earlier research papers of the author established the presence of large number of nanoparticles and quantum dots in all scales of dilutions of homeopathic drugs. The body of evidence presented are sufficient to establish the fact that homeopathy is not a placebo therapy but a nanomedicine.

NANODYNAMICS

Dr. E. S. RAJENDRAN

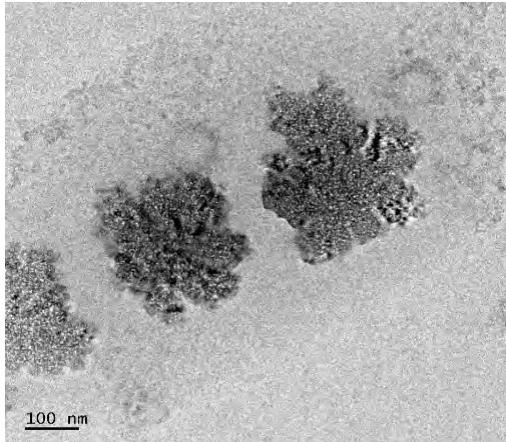


**NANOSCIENCE
HOMEOPATHY
PHYSICAL SCIENCES
NANOMEDICINE**

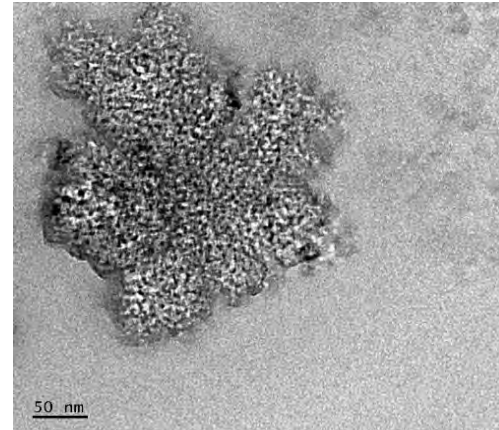
FINDINGS OF THE STUDY

A. HRTEM ANALYSIS

TEM images of Aurum met 6C. Particle size 0.3 nm – 20 nm



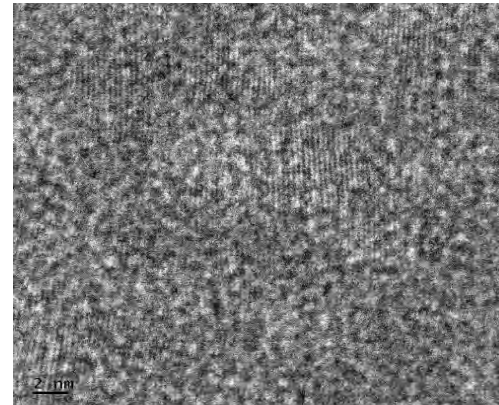
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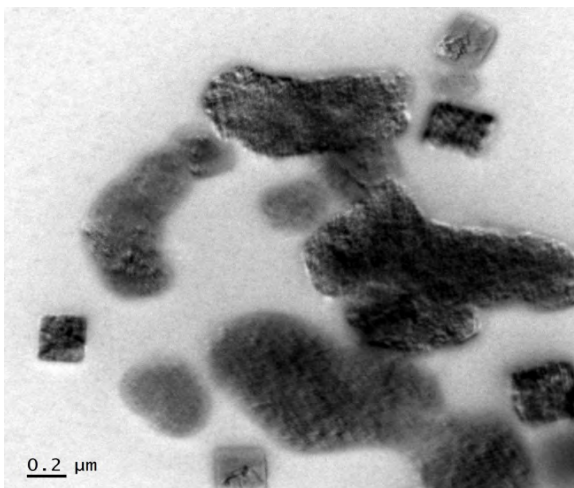


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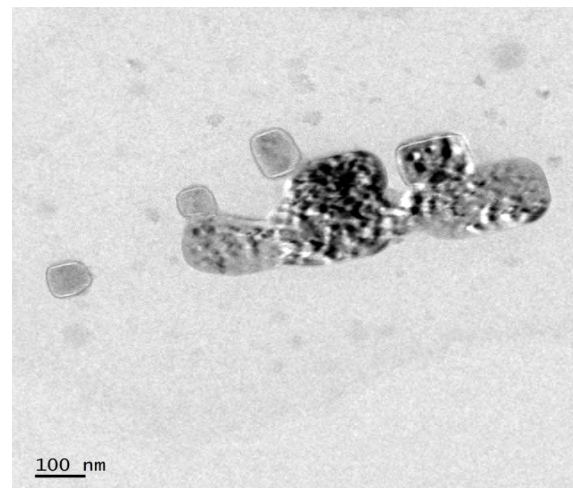


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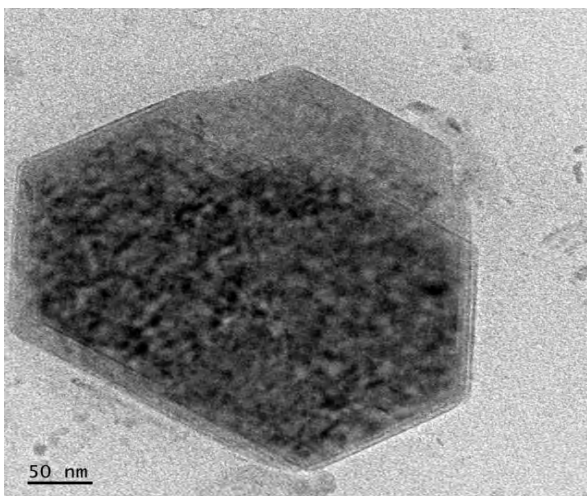
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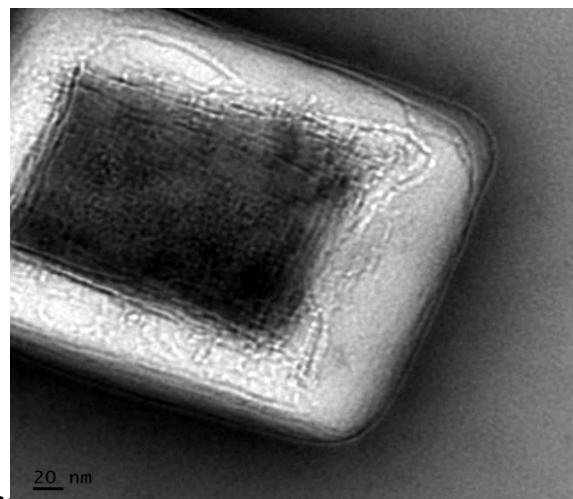
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100nm resolution

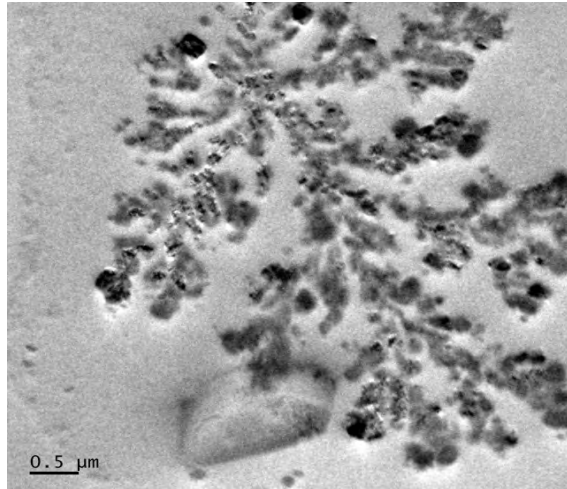


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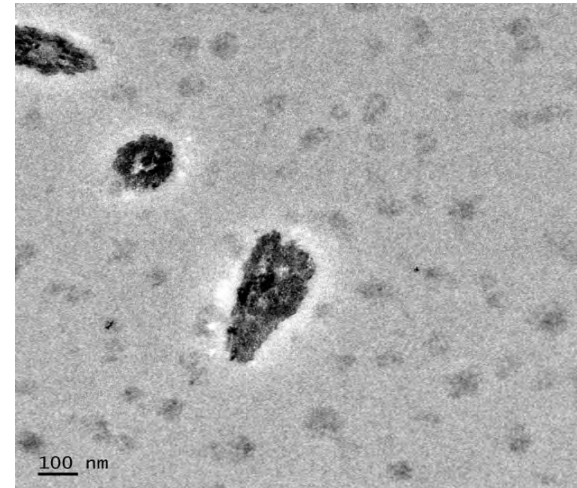


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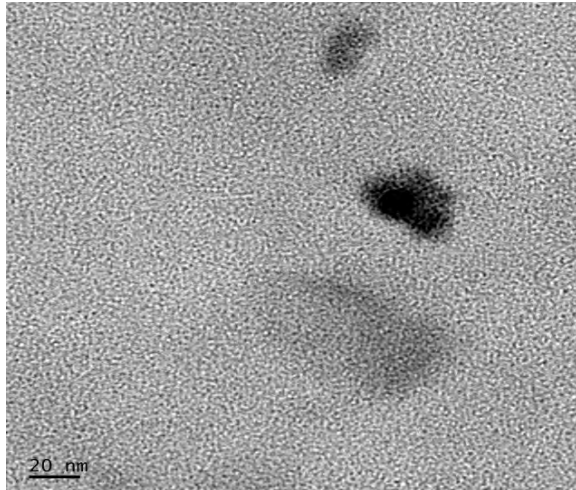
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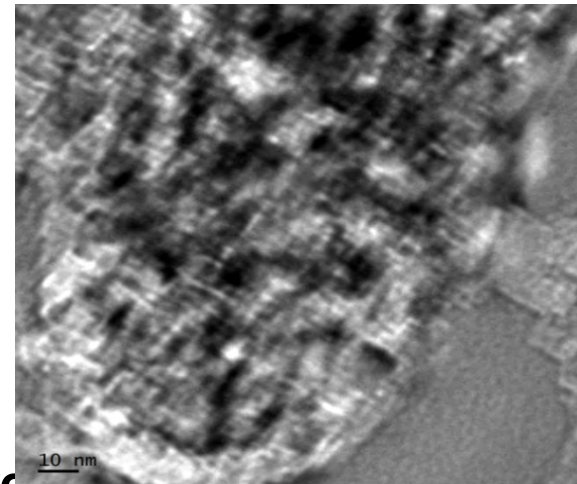
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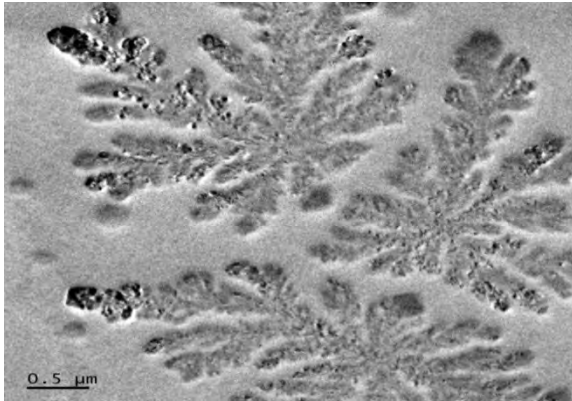


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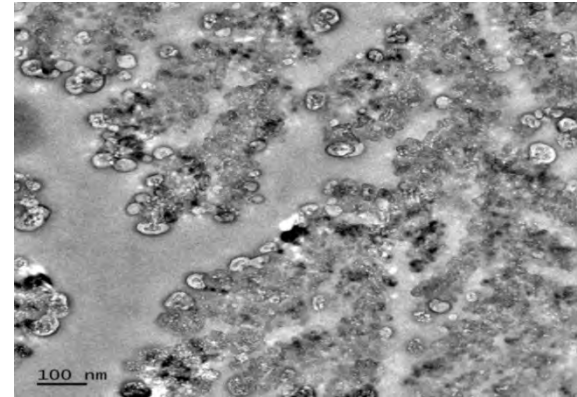


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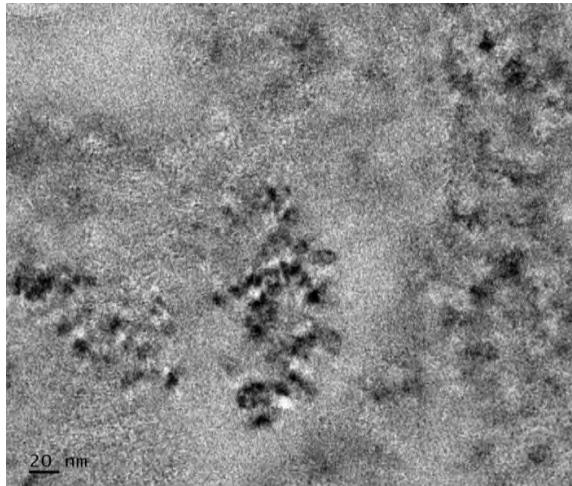
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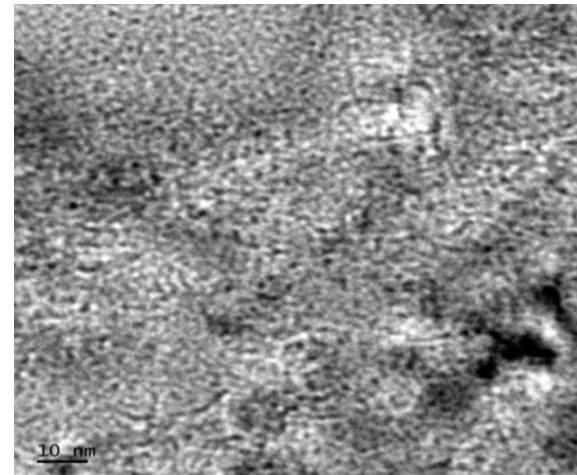
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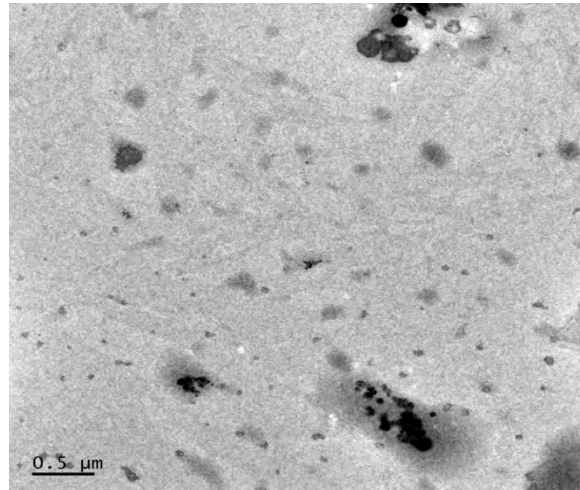


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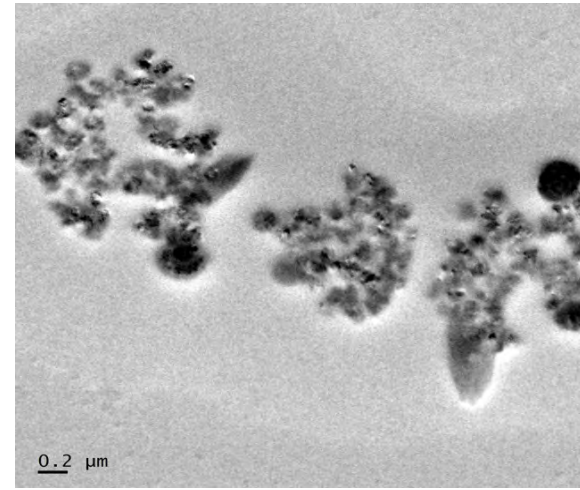


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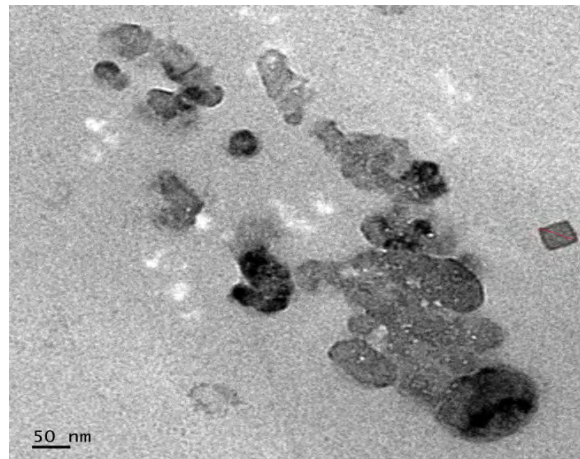
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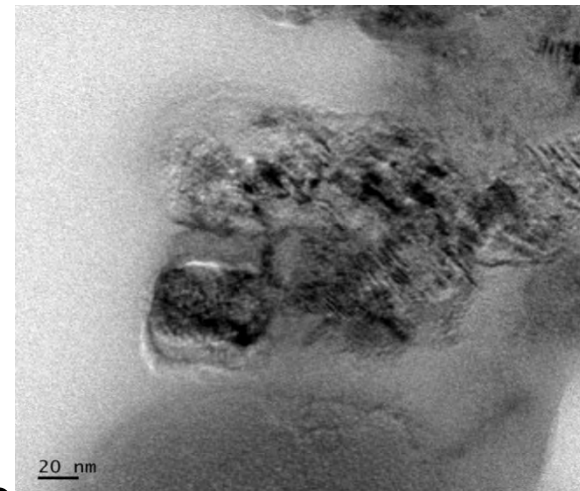
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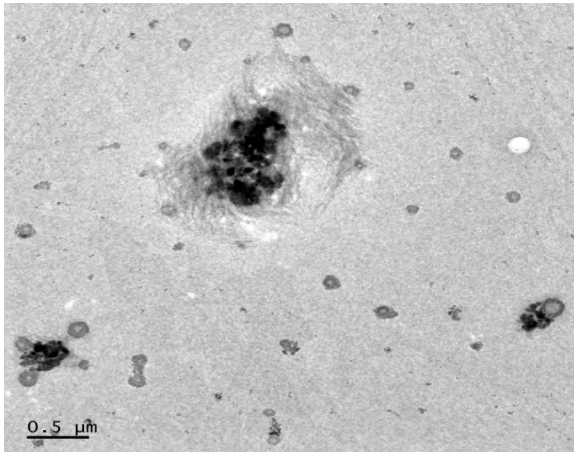


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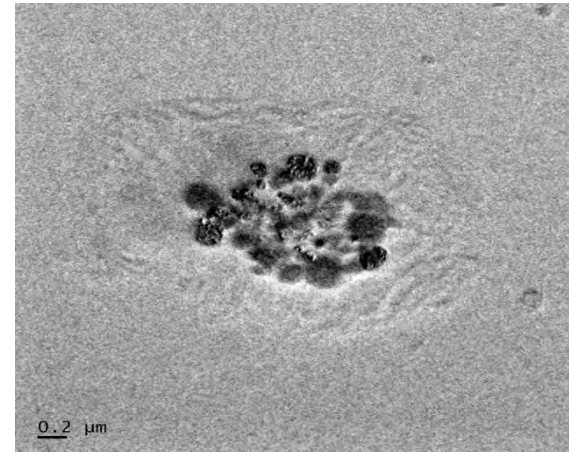


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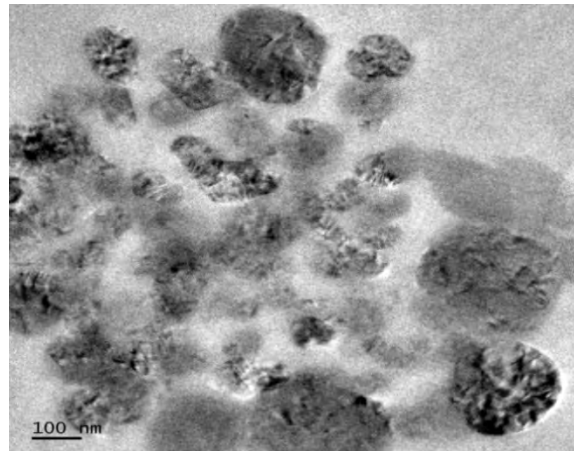
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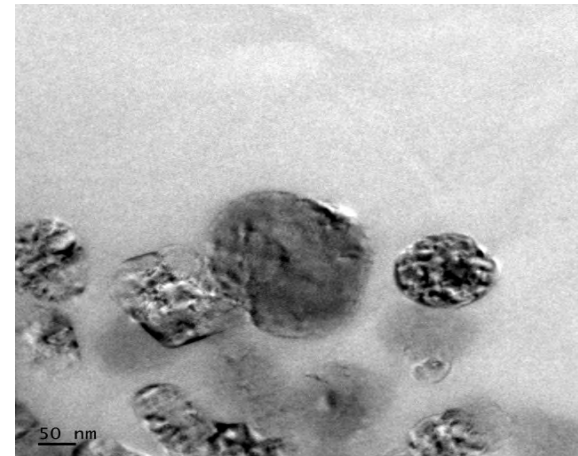
500 nm resolution



200 nm resolution

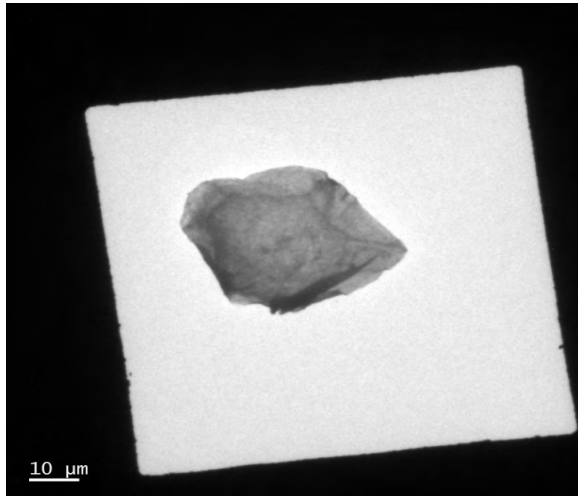


100 nm resolution

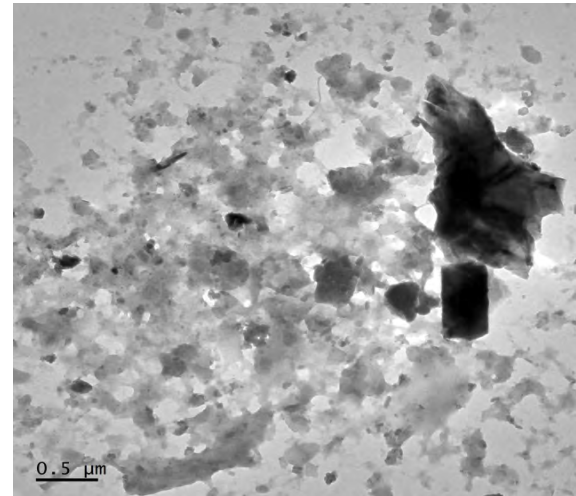


50 nm resolution

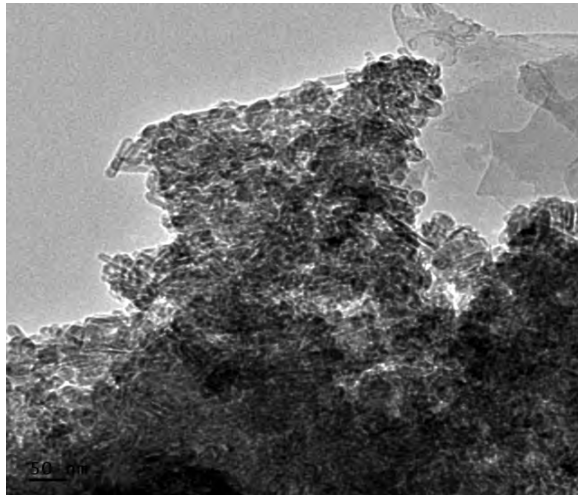
TEM IMAGES OF AURUM MET CM. Particle size 7nm – 100nm



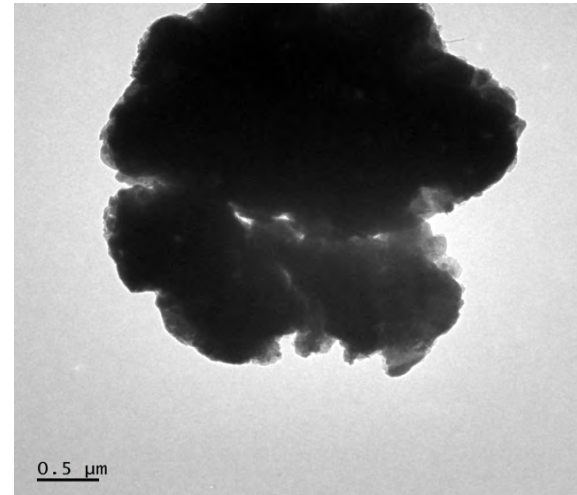
10μm resolution



500nm resolution



50nm resolution



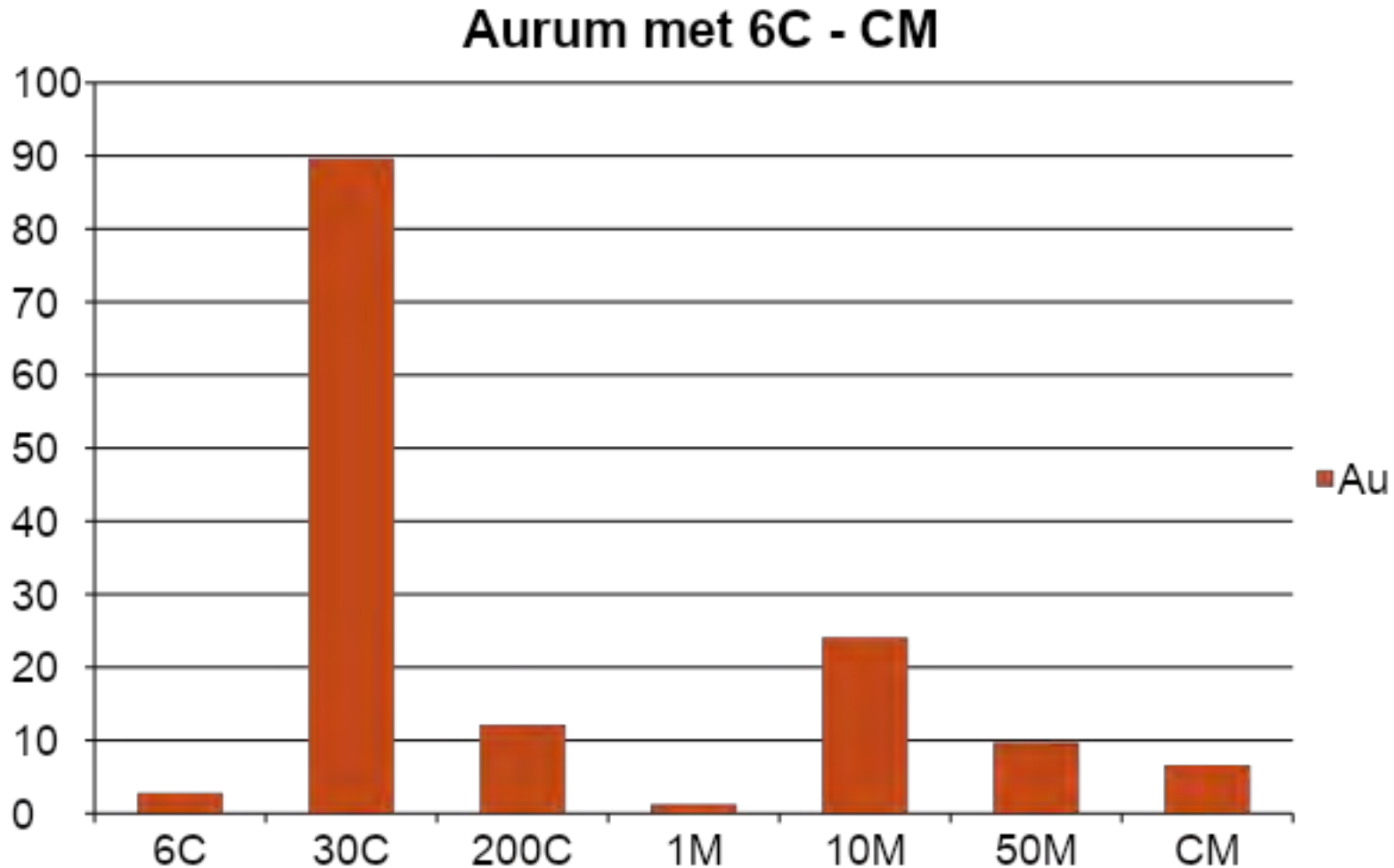
500nm resolution

PERCENTAGE OF ELEMENTS IN THE PARTICLES SEEN IN AURUM METALLICUM

6C – CM

Elements		Au	Al	Si	K	Fe	Cu	In	Hf	O	Na	Cl	B	Co	C
	6C	2.82			6.51		75.13				15.53				
Weight percentage	30C	89.66					0.34								
	200	12.14			29.36		25.80				20.08	12.62			
	1M	1.24	15.63	18.48	2.06	1.04	32.52	8.93	11.68	8.39					
	10M	24.09				11.95	38.61						14.54	10.8	
	50M	9.73				13.86	53.27							23.13	
	CM	6.58				6.01	35.36		36.56					10.08	5.20

COMPARATIVE WEIGHT PERCENTAGE OF Au IN AURUM MET 6C - CM

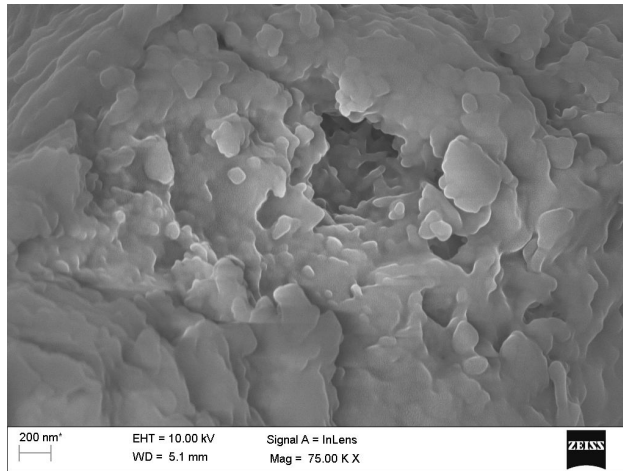


SIZE OF NANOPARTICLES IN AUR MET 6C - CM

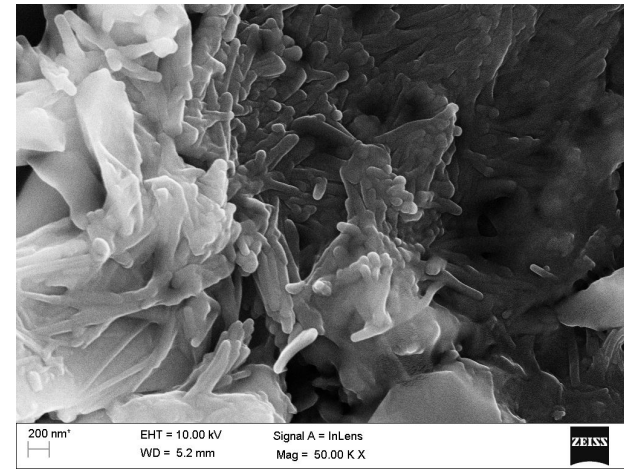
Potency	Particle size
Aur met 6C	0.3 – 20 nm
Aur met 30C	3 – 366 nm
Aur met 200C	5 – 125 nm
Aur met 1M	5 – 50 nm
Aur met 10M	25 – 50 nm
Aur met 50M	3 – 458 nm
Aur met CM	7 – 100 nm

B. FESEM ANALYSIS

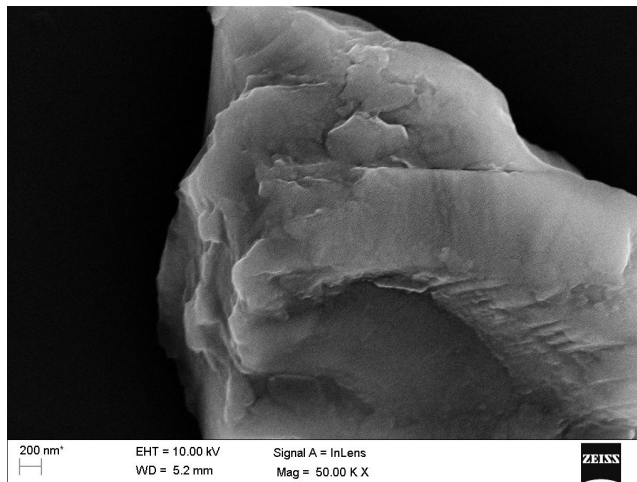
FESEM Images Of Hypericum 6C. Particle size 36.56nm – 343.5nm



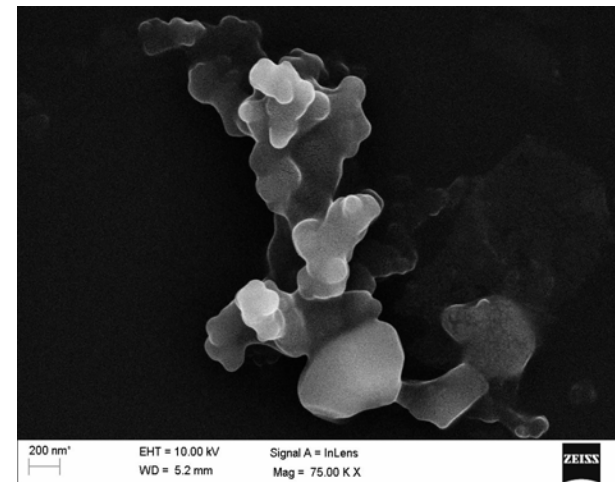
200nm resolution



200nm resolutionnn

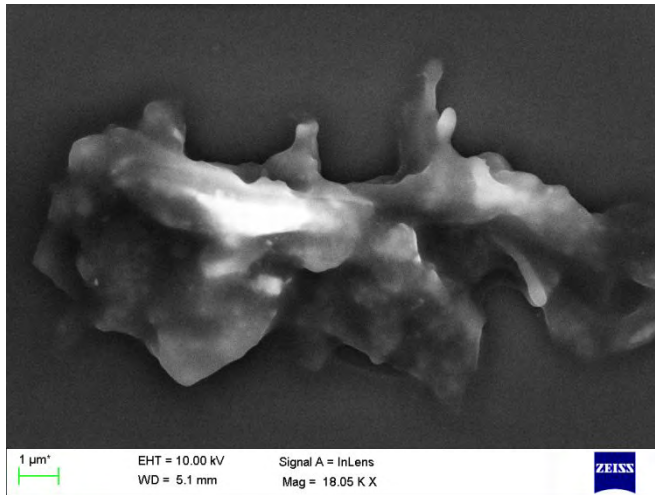


200nm resolution

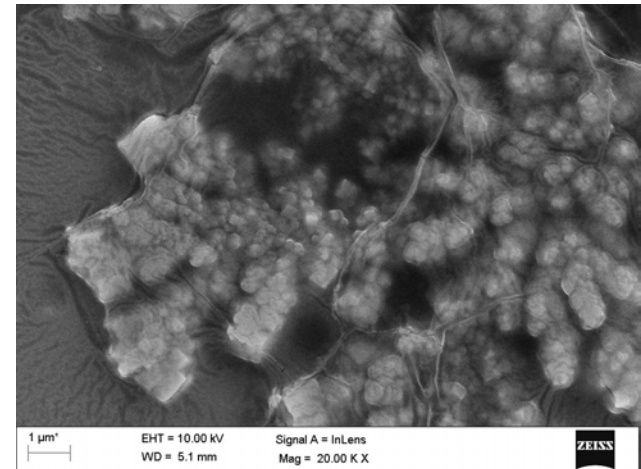


200nm resolution

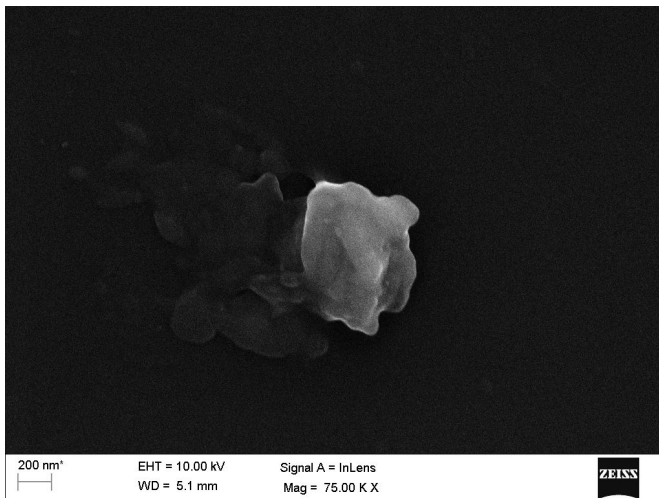
FESEM Images Of Hypericum 30C. Particle size 18.18nm – 295.3nm



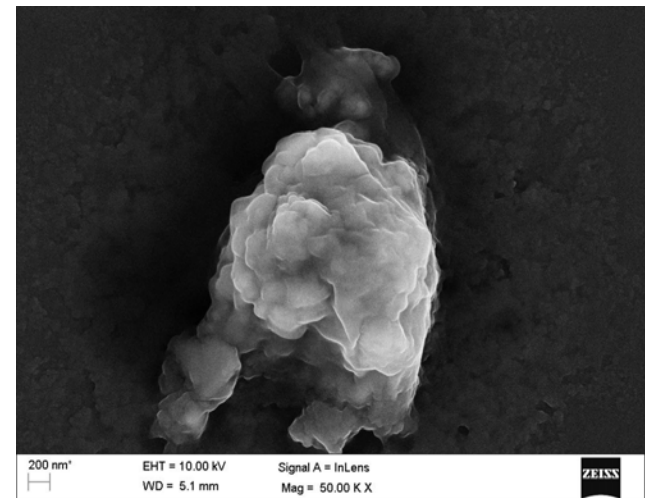
1 μm resolution



1 μm resolution

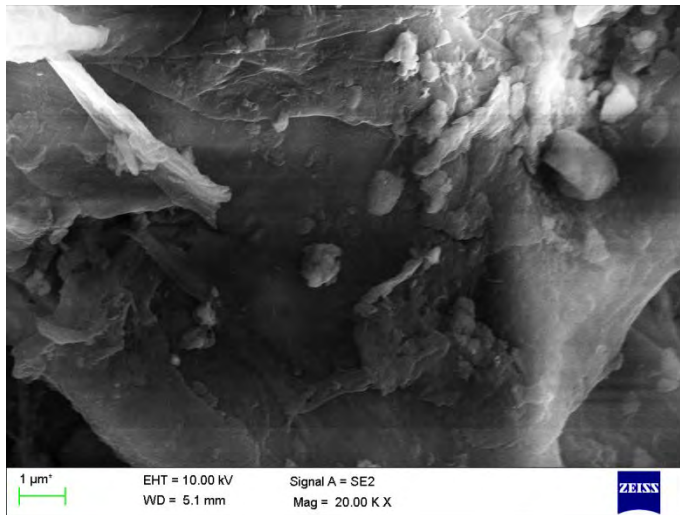


200nm resolution

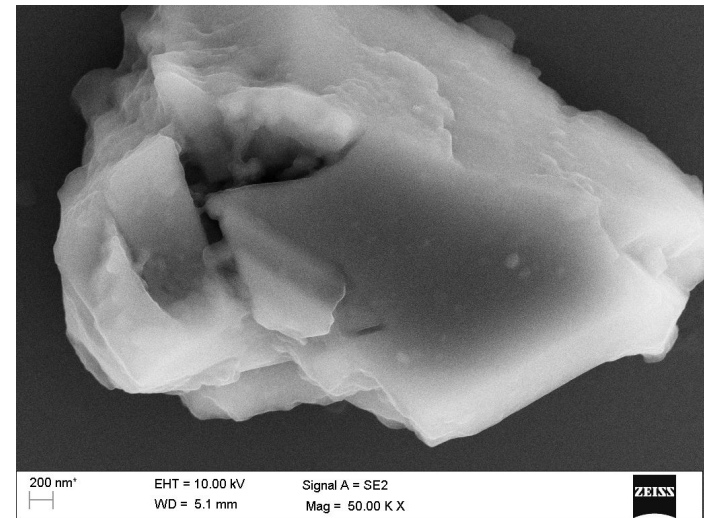


200 nm resolution

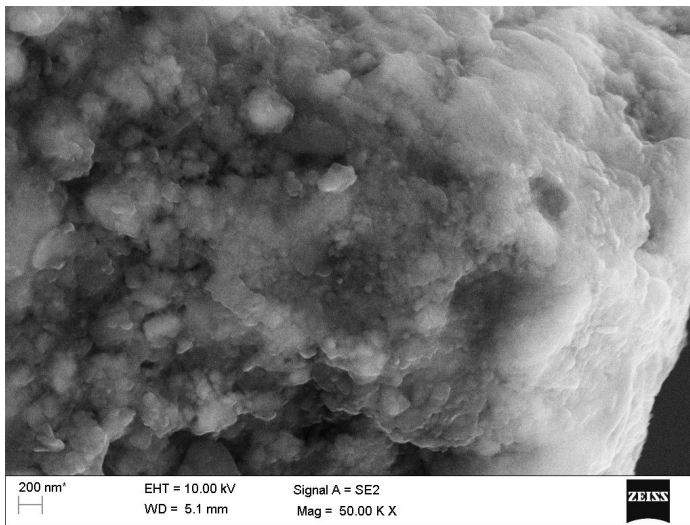
FESEM Images Of Hypericum 200C. Particle size 52.88nm – 233nm



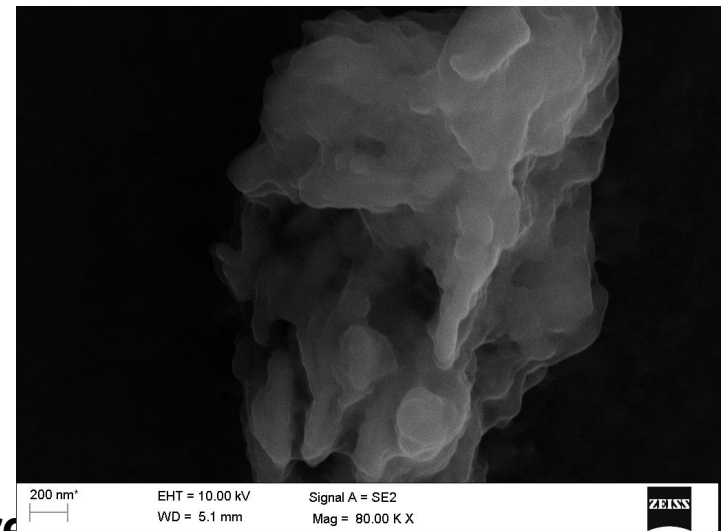
1 μm resolution



200 nm resolution

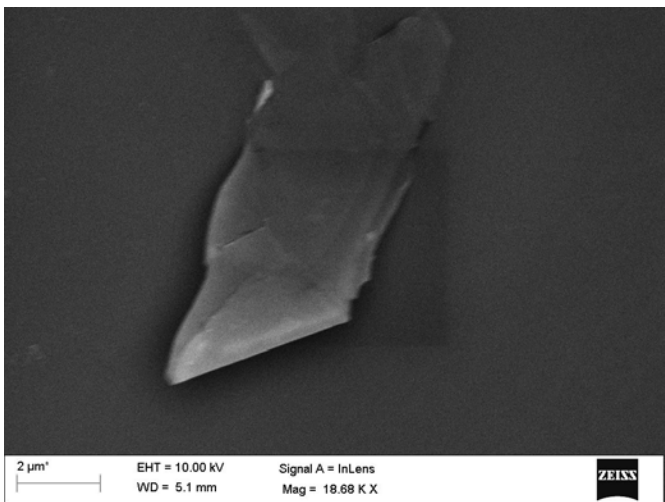


200nm resolution

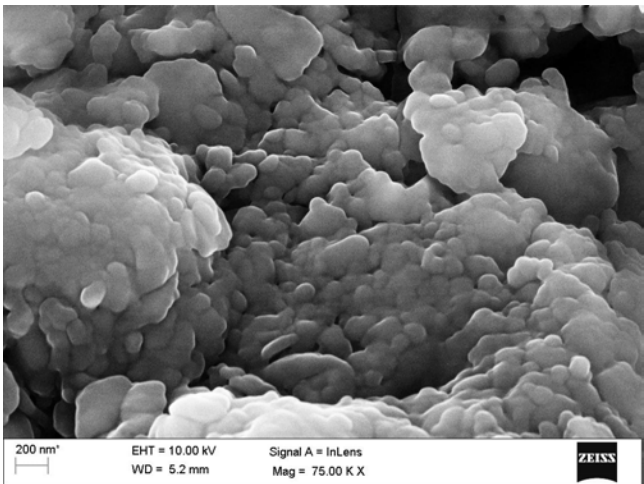


200nm resolution

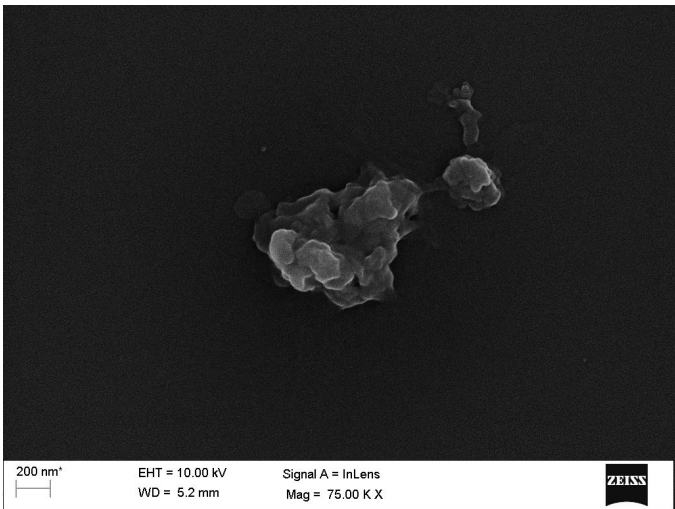
FESEM Images Of Hypericum 1M. Particle size 21.47nm – 339.5nm



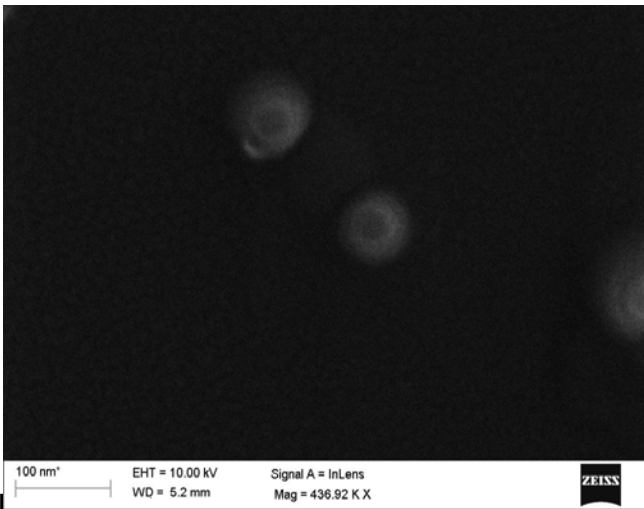
2μm resolution



200nm resolution

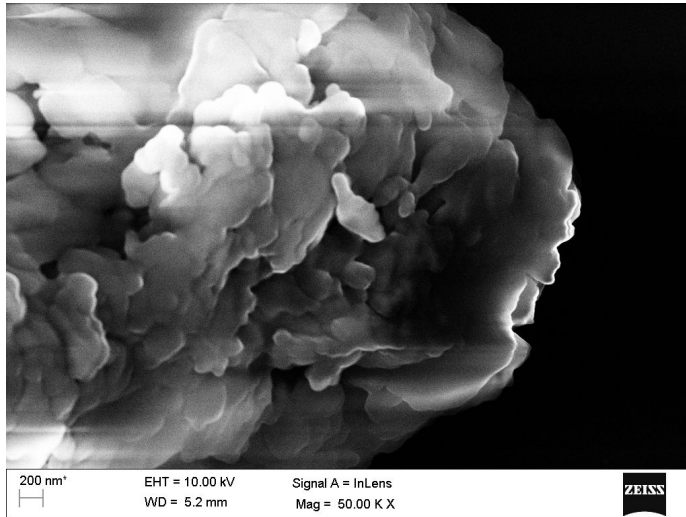


200nm resolution

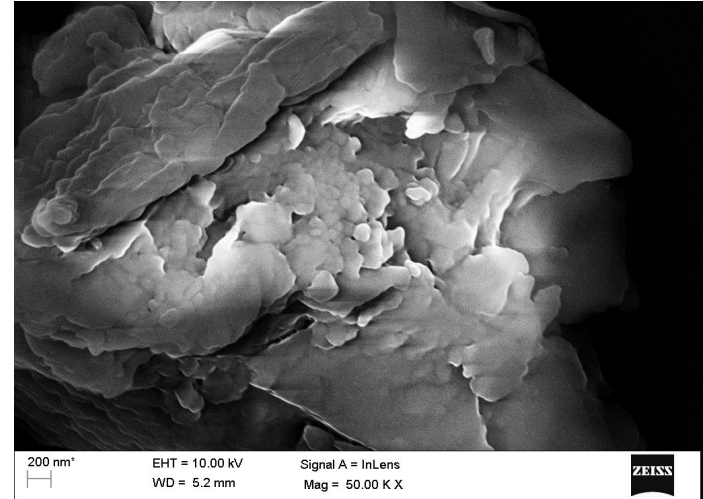


100nm resolution

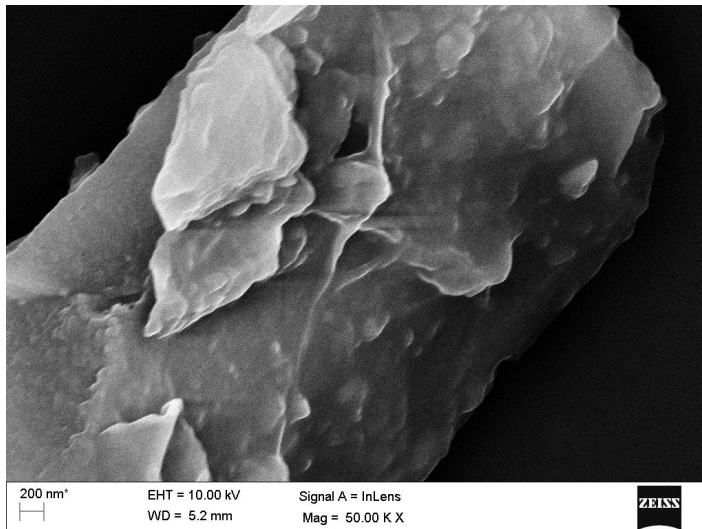
FESEM Images Of Hypericum 10M. Particle size 33.71nm – 186.4nm



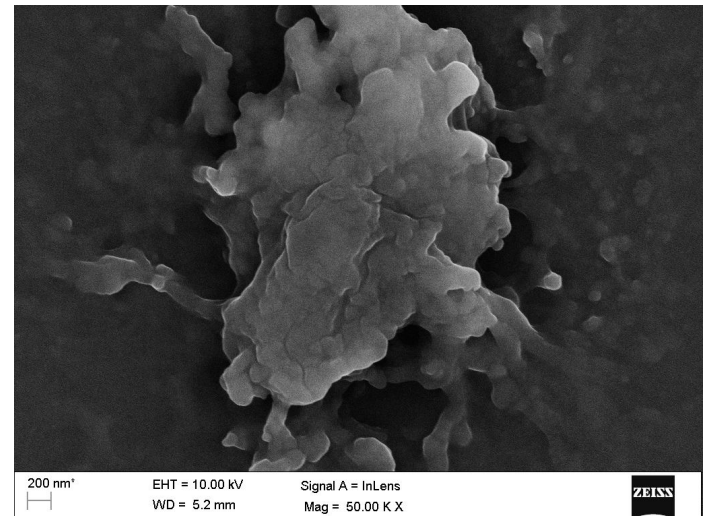
200nm resolution



200 nm resolution

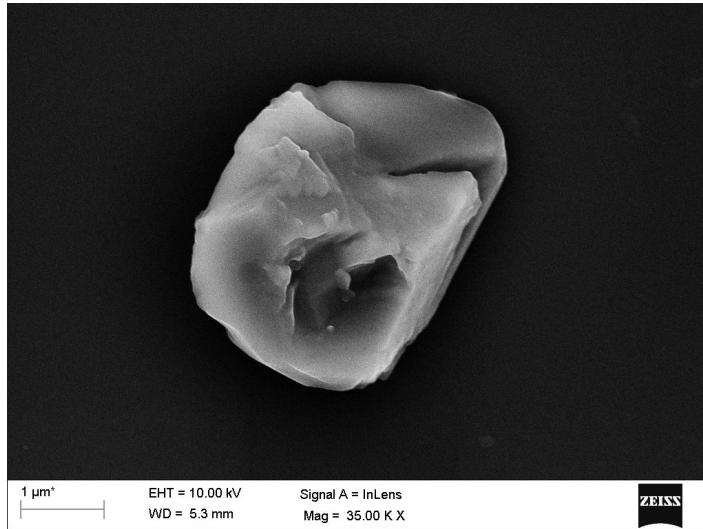


200nm resolution

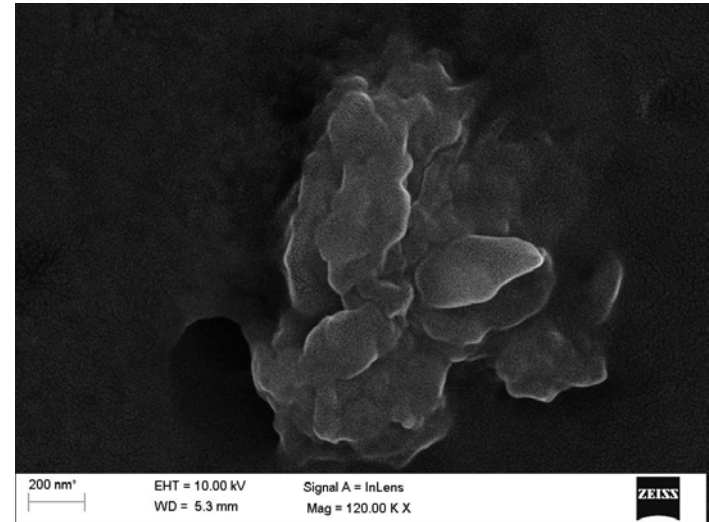


200nm resolution

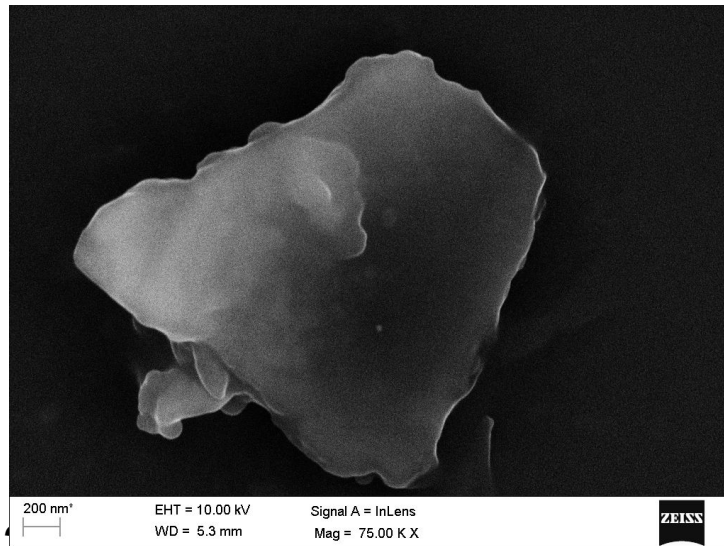
FESEM Images Of Hypericum 50M. Particle size 24.37nm – 210.4nm



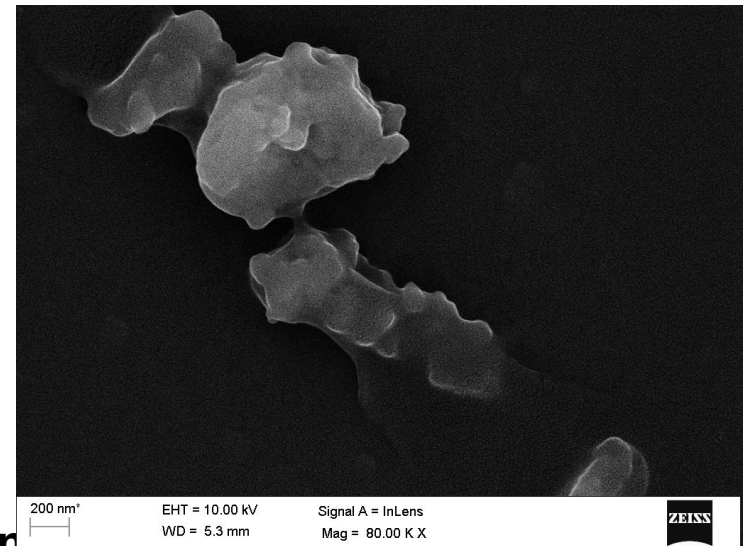
1μm magnification



200 nm magnification

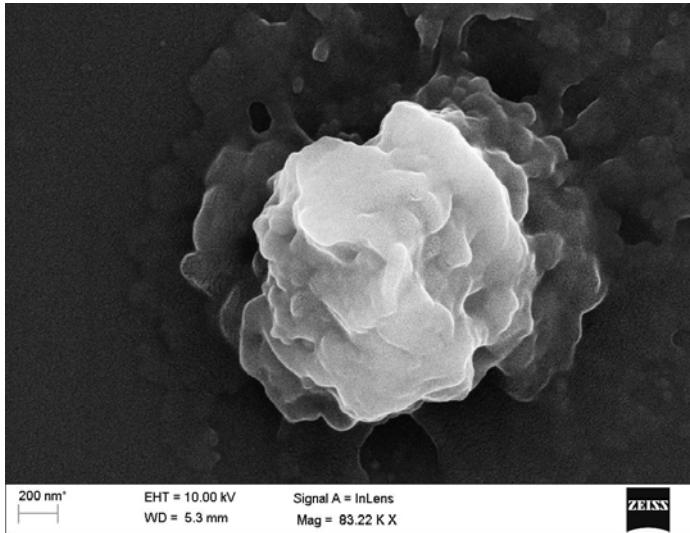


200nm magnification

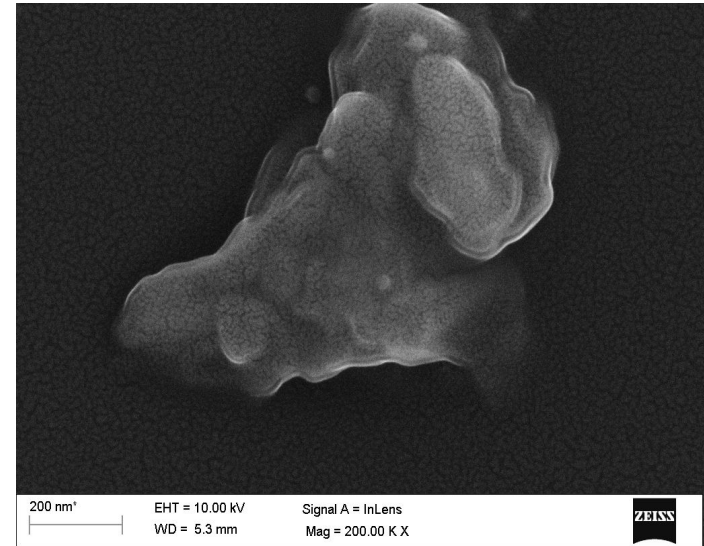


200nm magnification

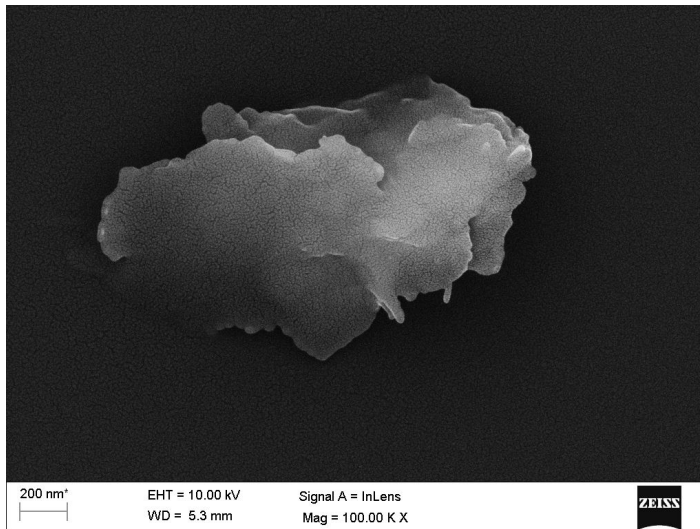
FESEM Images Of Hypericum CM. Particle size 16.39nm – 68.52nm



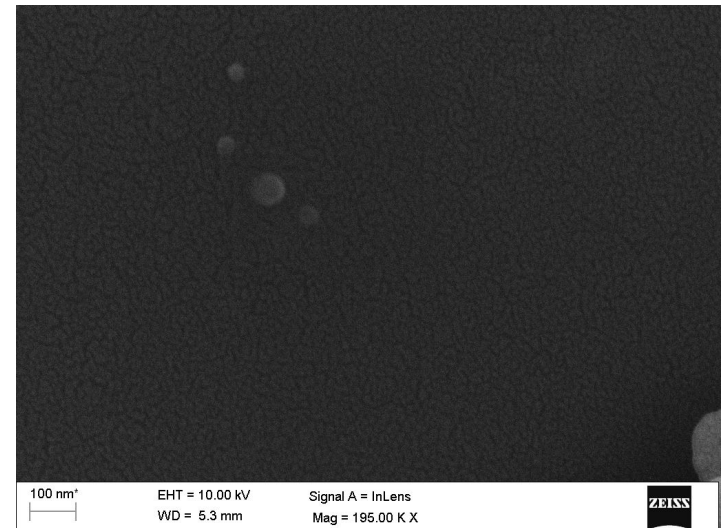
200nm resolution



200 nm resolution



200nm resolution

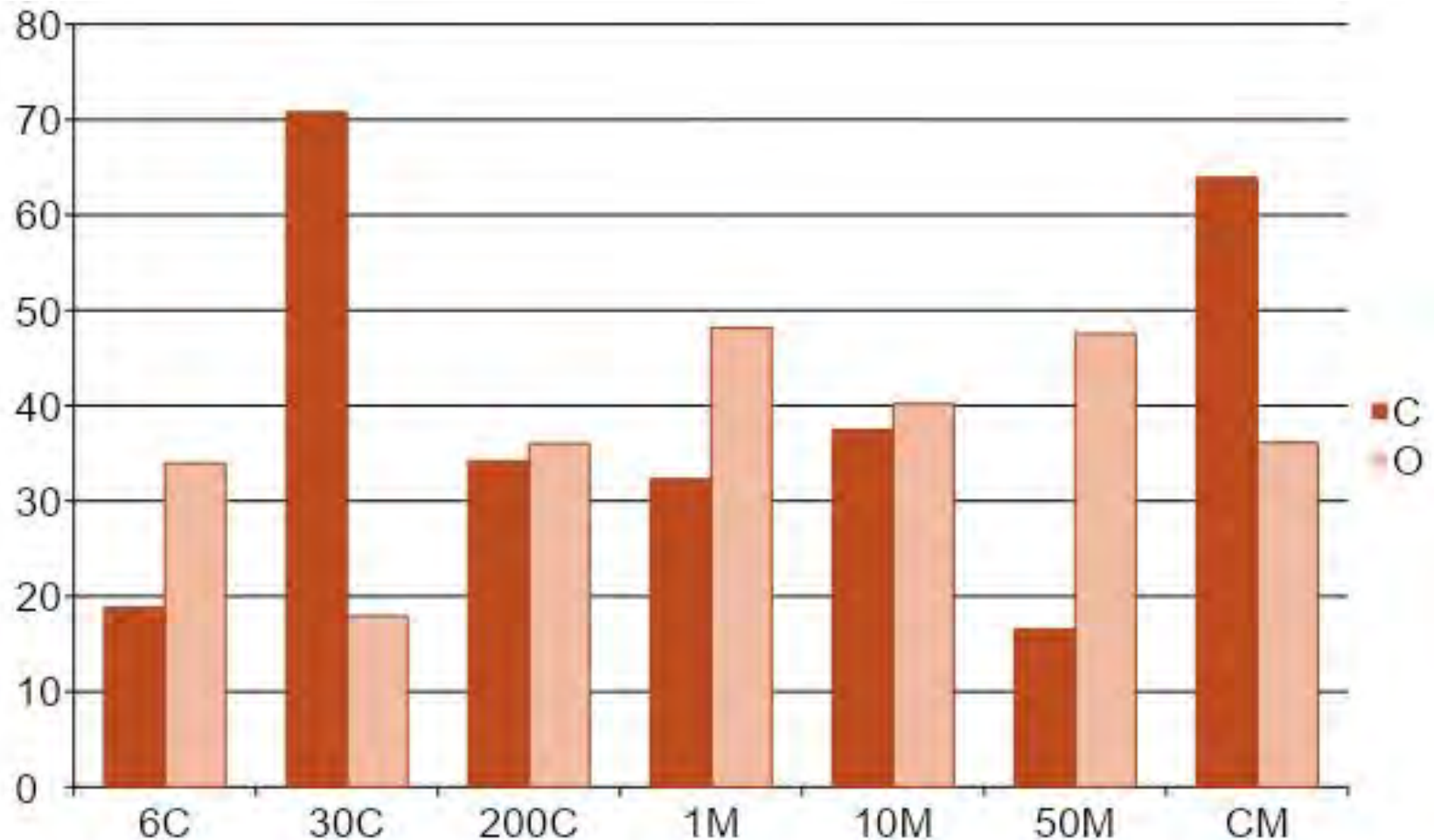


100nm resolution

WEIGHT PERCENTAGE OF ELEMENTS IN THE PARTICLES SEEN IN HYPERICUM 6C - CM

Elements		C	O	Si	Al	Fe	Ca	Na
Weight percentage	6C	18.86	33.96	3.85	1.96	41.37		
	30C	70.76	17.95	9.29				2.01
	200C	34.19	36.02	18.3	9.66		1.82	
	1M	32.28	48.15	8.68	4.55		6.35	
	10M	37.46	40.18	20.03	2.33			
	50M	16.56	47.53	2.65			33.27	
	CM	63.89	36.11					

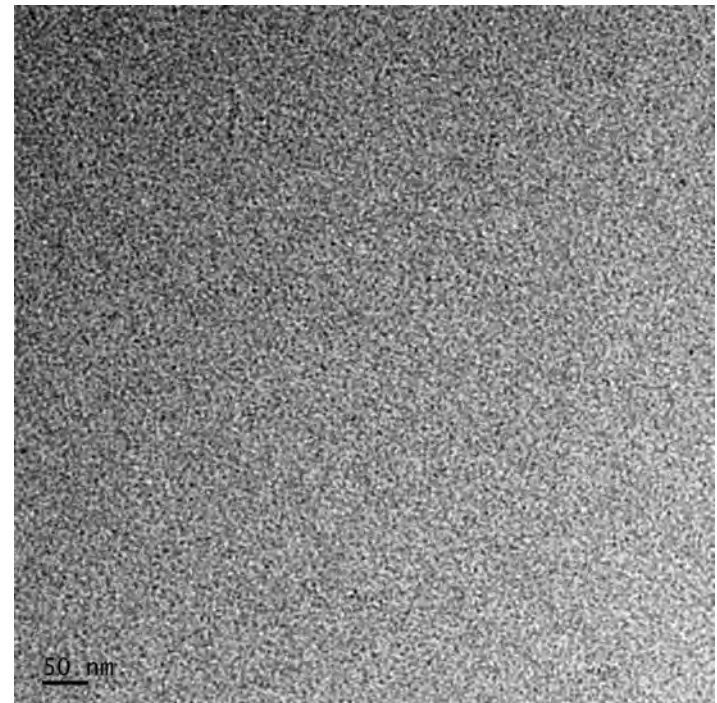
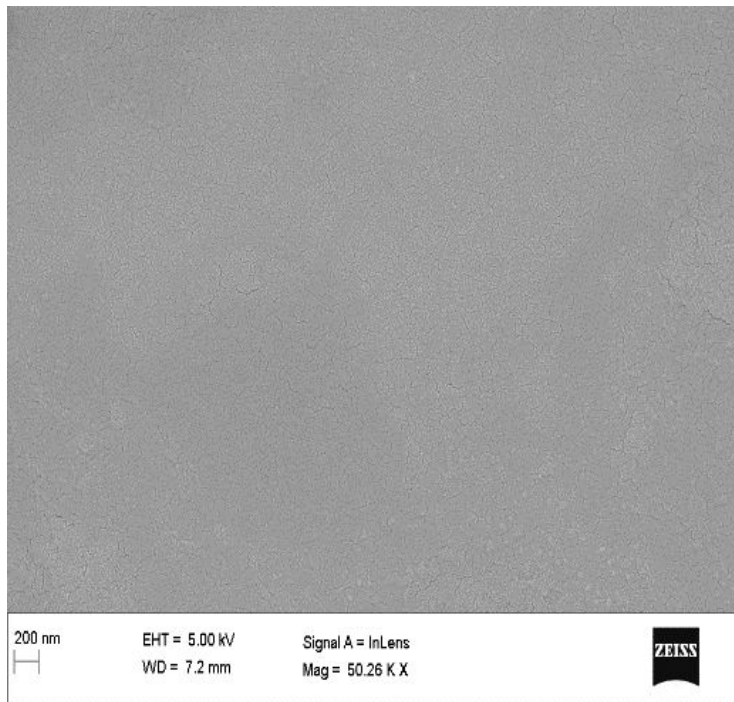
COMPARATIVE WEIGHT PERCENTAGE OF CARBON & OXYGEN IN HYPERICUM 6C - CM



PARTICLE SIZE OF HYPERICUM 6C - CM

Potency	Particle size
Hypericum 6C	36.56nm – 343.5nm
Hypericum 30C	18.18nm – 295.3nm
Hypericum 200C	52.88nm – 233nm
Hypericum 1M	21.47nm – 339.5nm
Hypericum 10M	33.71nm – 186.4nm
Hypericum 50M	24.37nm – 210.4nm
Hypericum CM	16.39nm – 68.52nm

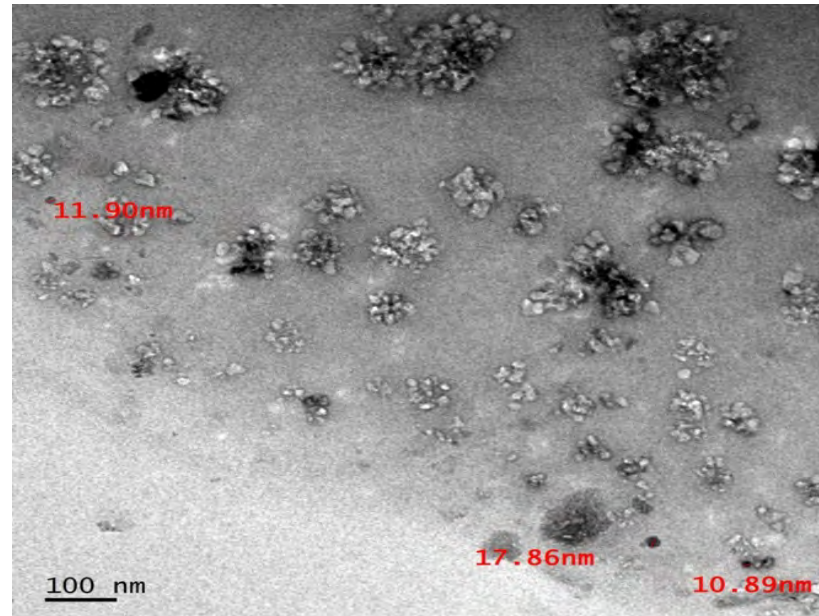
ANALYSIS OF ALCOHOL (Control)



FESEM Image Of Alcohol

HRTEM Image of Alcohol 30C

HRTEM IMAGE OF ARS ALB 200



Size of nanoparticles: 5.08nm – 71.09nm

CONCLUSION

- Nanoparticles and QD sized particles are seen in all potencies of Aurum metallicum
- Au is present in all the potencies of Aur met
- Nanoparticles are seen in all the potencies of Hypericum
- Carbon (C) and Oxygen (O) constitute the main elements in all the particles of Hyperic
- Homeopathy is a Nanopharmacology

BIO SYSTEMS IN NANO SCALE

- **Fundamentals of biological systems are managed at nanometer scale, e.g.**
 - DNA, RNA
 - Hormones
 - Enzymes
 - Receptors
 - Antigens
 - Antibodies etc.

MEDICAL SCIENCE NEED TO ACCEPT

- **Inter cellular realities of life**
- **Limitations of Virchow's theories as an outdated model**
- **The ability of homeopathic NPs to work at the inter cellular & inter nuclear level**



- **Epigenetics of Nanopharmacology of homeopathic drugs**

GENETIC BASIS OF BIOLOGICAL EXISTENCE

DNA CODING IS THE BASIS

of growth, development & termination of life

Tissues, organs and systems



are

grown out of pluripotent stem cell



Gene regulation control this development



View the biological existence from DNA



to

the gross organism is rather advanced



Hence

**Current mechanistic model of conventional bio
molecular medicine – needs revision.**

HOW COMPLEX OUR GENETIC SYSTEM?

100 trillion cells in a human being



**DNA of every cell nucleus has 2 meter length
Has 3 billion base pairs**



**Total length of human DNA – Double the
diameter of solar system - About 18.18 billion
kilometers**



**2% is the coding part – 98% is the non coding
part still unknown**



This is the genetic basis of existence

GENETICS AND NANOPHARMACOLOGY

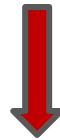
Homeopathic ultra-high dilutions contains



nanoparticles of the drug materials



These NPs are capable of epigenetic modifications



Hence the signs & symptoms of drug proving

And

Cure based on totality of signs & symptoms

so



Similia similibus is justified

Parameters studied (Khuda-Bukhsh et al., 2011,eCAM)

Signalling pathway

AhR, PCNA, Akt, Bcl-2, Bcl-xL, NF- κ B, IL-6, pro-apoptotic proteins like cytochrome c, Bax, Bad, Apaf, caspase-3 and -9

Cell cycle analysis

Different phases of cell cycle population at S, G2, sub-G1 and G1 phases in different mice groups were observed

Cytogenetical parameters

Chromosomal aberration, DNA damage, comet assay, MN test, MI, Sperm head anomaly were studied in control and experimental group of mice

Histology & immunofluorescence

Histological features of skin papilloma size and other features were characterized microscopically.,by Immunofluorescence studies for expression of AhR and PCNA proteins were also evaluated in different groups of mice

RESULTS (Khuda-Bukhsh et al,2011)

Signaling pathway

AhR ,
PCNA, Akt
, Bcl-2,
Bcl-xL,
NF- κ B,
IL-6,
pro-apoptotic
proteins like
cytochrome c, Bax,
Bad, p53,
Apaf,
caspase-3
and -9



Cell cycle analysis

Increase of cell population at S & G2 phases & decrease in sub-G1 and G1 phases in carcinogen-treated drug-unfed mice, in the Sec cor 30-fed mice these were near normal

Cytogenetical parameters

Chromosomal aberration, DNA damage, comet assay, MN test, MI, Sperm head anomaly: Reduction in genotoxic & DNA damages in bone marrow cells of Sec Cor 30-fed mice, as revealed from cytogenetic and Comet assays

Histology & immunofluorescence

Histological features of skin papilloma showed reduction in papilloma size. Immunofluorescence studies of AhR and PCNA also suggested reduced expression of these proteins in Sec cor 30-fed mice, thereby showing its anti-cancer potentials against skin papilloma

↑ Up regulation ↓ Down regulation

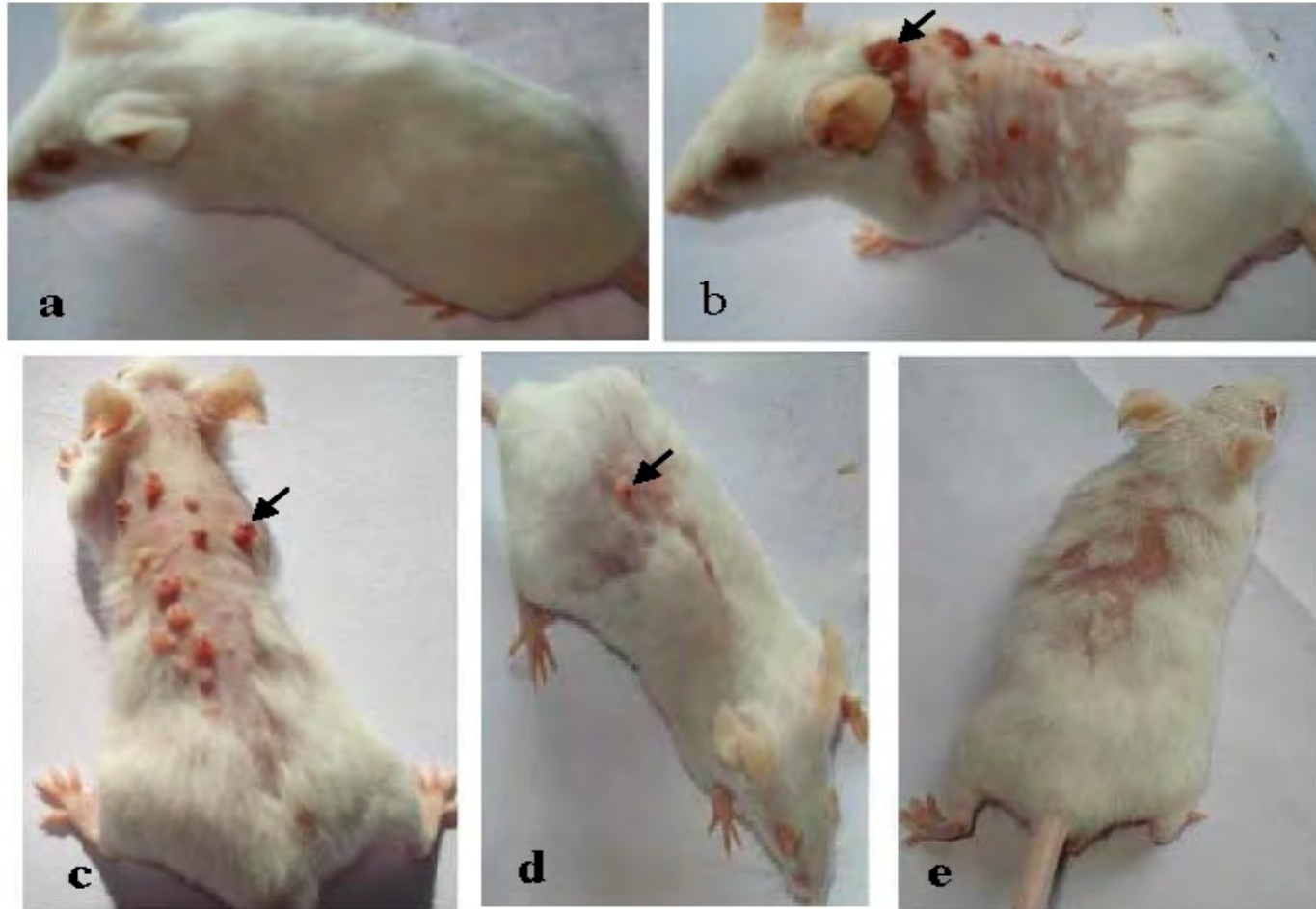
MOLECULAR STRATEGIES FOR COMBATING CANCER (KHUDA-BUKHSH ET AL., 2011)

By preventing or blocking cell proliferation

By leading uncontrolled cells into apoptotic (programmed cell death) or senescence pathways by modification of signalling cascades

While orthodox chemotherapeutic drugs generally combat by causing direct DNA damage and thereby cell death, ultradiluted homeopathic remedies appear to adopt molecular pathways by causing modifications in signalling cascades through interaction with DNA presumably by epigenetic modifications.

DMBA-induced skin papilloma : External morphology showing development of skin cancer and modulating effects of Secale cor 30C Vs Placebo (Khuda-Bukhsh et al, 2011).



a-Normal, b- Carcinogen treated, c-Succussed alcohol (Placebo) treated, d&e-Carcinoma treated with Secale cor 30

Condurango 30C Induces Epigenetic Modification of Lung Cancer-specific Tumour Suppressor Genes via Demethylation

Anisur R. Khuda-Bukhsh Sourav Sikdar

Department of Zoology, University of Kalyani, Kalyani, India



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● Research Article

Ultra-highly diluted plant extracts of *Hydrastis canadensis* and *Marsdenia condurango* induce epigenetic modifications and alter gene expression profiles in HeLa cells *in vitro*

Santu Kumar Saha¹, Sourav Roy², Anisur Rahman Khuda-Bukhsh¹

1. Cytogenetics and Molecular Biology Laboratory, Department of Zoology, University of Kalyani, Kalyani-741235, West Bengal, India

2. Department of Entomology and Institute for Integrative Genome Biology, University of California Riverside, CA 92521, USA

HOMEOPATHY - NANOPHARMACOLOGY

- QD size particles have free entry through the nuclear wall and activate epigenetic programming
- Also can act on RNA, Hormones, Enzymes
- Receptors, Antigens, Antibodies etc.
- Dr Hahnemann (1755 –1843) –The pioneer practitioner and founder of the concept of **Nanomedicine**.
- Michael Faraday (1791 –1867) –The father of **Nanoscience**

CONVENTIONAL BIO MOLECULAR MEDICINE

A life saving approach in accident and emergency cases

**But a failed model in chronic diseases
evolve during the course of life**



Due to

**The genetic basis of existence and its
biological clock**

BASIS OF CONVENTIONAL BIO MOLECULAR MEDICINE

Abraham Flexener – 1910 USA

Stands on theories of

Descartes, Newton (objectivity & predictability)

Virchow – cellular pathology – 1858

Louis Pasteur (1863), Robert Koch (1882)

Alexander Fleming – 1928

**All helped to contain infectious diseases
(except viral - Latest example: COVID- 19)**

BUT FAILED!!!

To cure chronic diseases

Diseases originating from complex genetic system

needs

Nano scale medicinal agents to act – not anti diabetic, anti hypertensive, anti allergic, anti tumor etc. in mg or g doses

So, nano pharmacology of Homeopathy is the best therapeutic option of future

EXISTENTIAL REALITY

The progress of knowledge from

Gross matter (Aristotle's – Categories)

Newtonian laws

Einstein's physics – Matter ↔ Energy

Demands

Drastic re-arrangement of learned belief

Applicable to branches of science and Medicine

The biological existence of human beings

defined by

Cartesian mechanistic model

need to be revised

**Modern view – biological existence begins with
single cell (zygote) and its genetic material
should be the basis of intervention in every
natural disease**

because

DNA CODING IS THE BASIS

of growth, health, diseases & termination of life

PRESENT RESEARCH FINDINGS PROVE

- Homeopathic potentization retains NPs in dilution, far beyond Avogadro's number
- Homeopathy is a personalized therapy
- Homeopathy is truly a **PERSONALIZED NANOMEDICINE**

Homeopathic individualization of patient is a way to sketch the **genetic blueprint** of the person using individual expressions of signs and symptoms (proving drugs and curing disease)

HOMEOPATHY AN ADVANCED MEDICINE OF FUTURE

- **COVID-19 marks the Civilizational shift in Social, Political, Economical, Scientific and Medical systems.**
- **Humanity is bracing for new realities of existence.**
- **Disintegration of current model of health based on Cartesian dualism is imminent.**
- **A new health model has to arrive, which is supportive of human immune system rather than suppressing it.**

CENTRE FOR STUDY

- 1. FESEM & EDS – CeNSE, IISC (Indian Institute of Science), Bangalore.**
- 2. HRTEM & EDS – IIUCNN, M.G. University, Kottayam.**

Thanks to

- Prof. Rudra Pratap & Mr. Varadharaja Perumal CeNSE, IISC, Bangalore, India.**
- Prof. Sabu Thomas, Dr. Nandakumar & Dr. B. Raneesh M.G. University, Kottayam, Kerala, India.**
- Prof. Khuda Bukhsh.**

*Hope sees the invisible,
feels the intangible and
achieves the impossible.*

THANK YOU