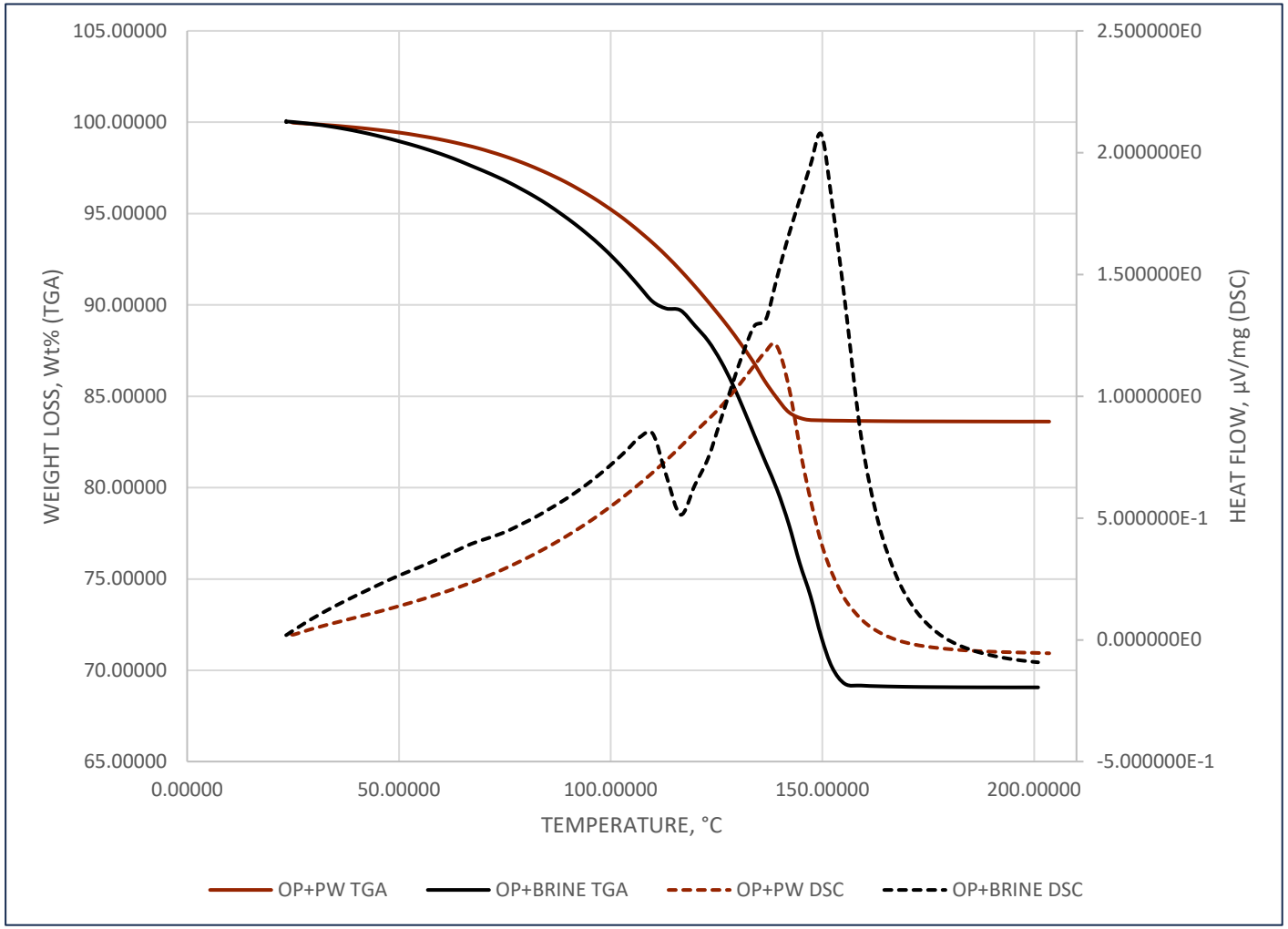
Wrong and Right

Makeup Issues

Not nice

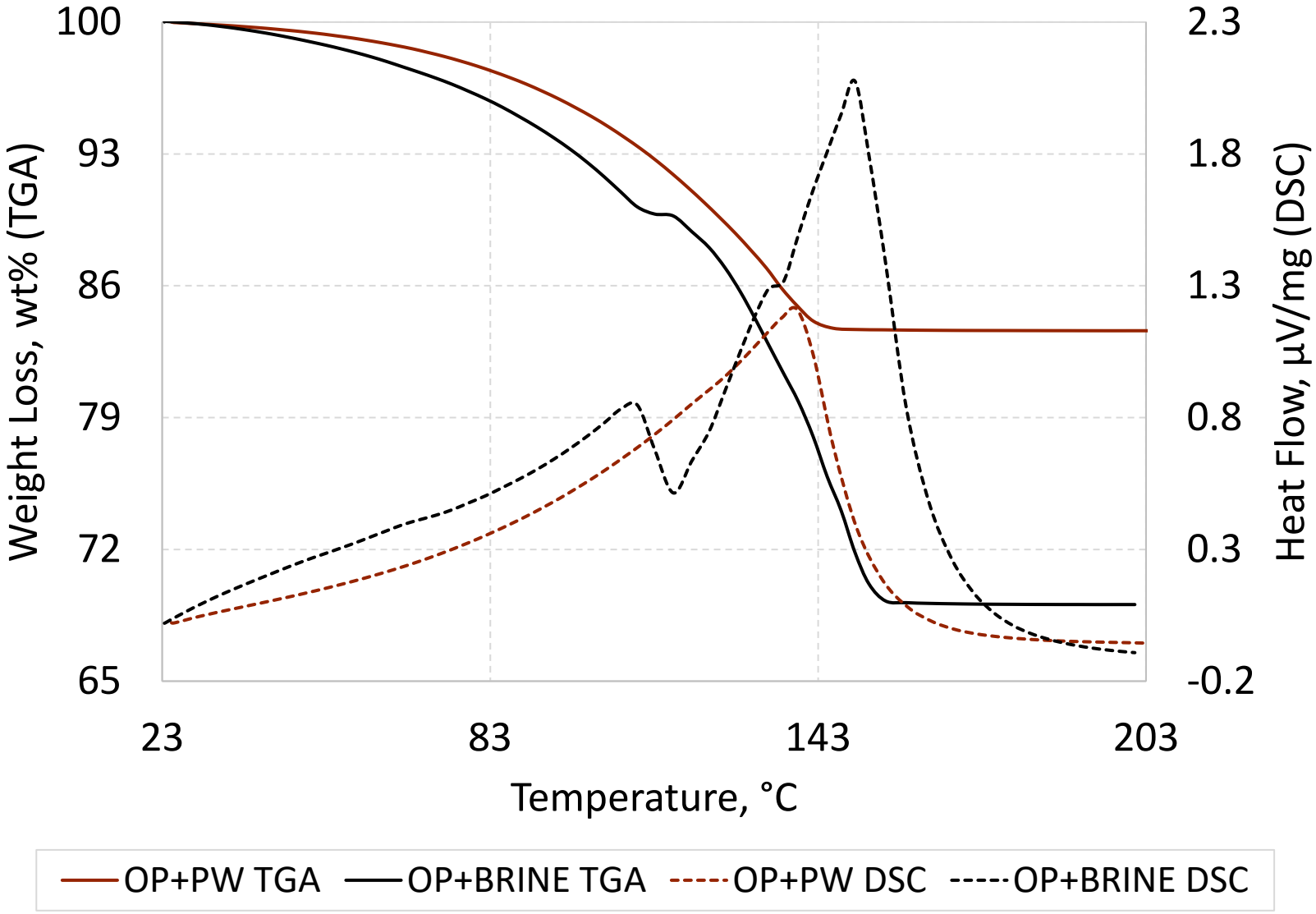
Because

1. Black frame around the graph
2. Y and x axis has unnecessary zeros after dot
3. Axis titles are capital
4. Font size is very small and grey
5. Legend is not descriptive



Better

- Y axis should be maximum 100%
- Horizontal grids should be the same for the secondary y-axis.
- Remove unnecessary dots on the axis numbers; i.e. not 100.00000 but 100.
- Select visible curve colors.
- Use black and big fonts.
- Check the titles and capitalized first letters only.
- No frame around the graph
- No title in the graph
- Legend should be descriptive (OP and PW do not have any meanings)



Scientific Meaning Issues

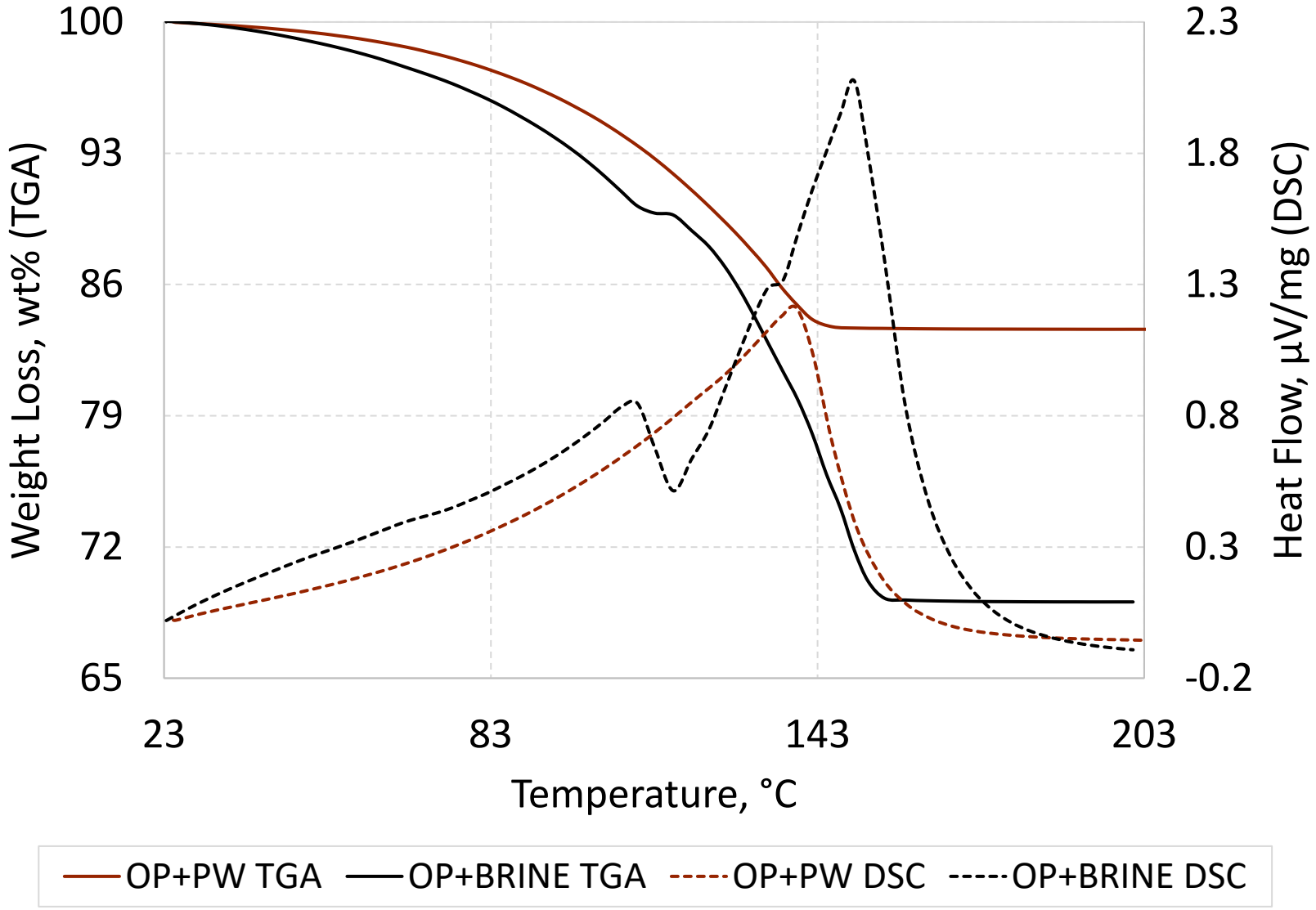
Wrong

Scientifically, does not have any meaning. Because we need to compare these results with initial sample.

One more concrete and dashed line curves are needed to show only OP = Initial mineral behavior with increasing temperature.

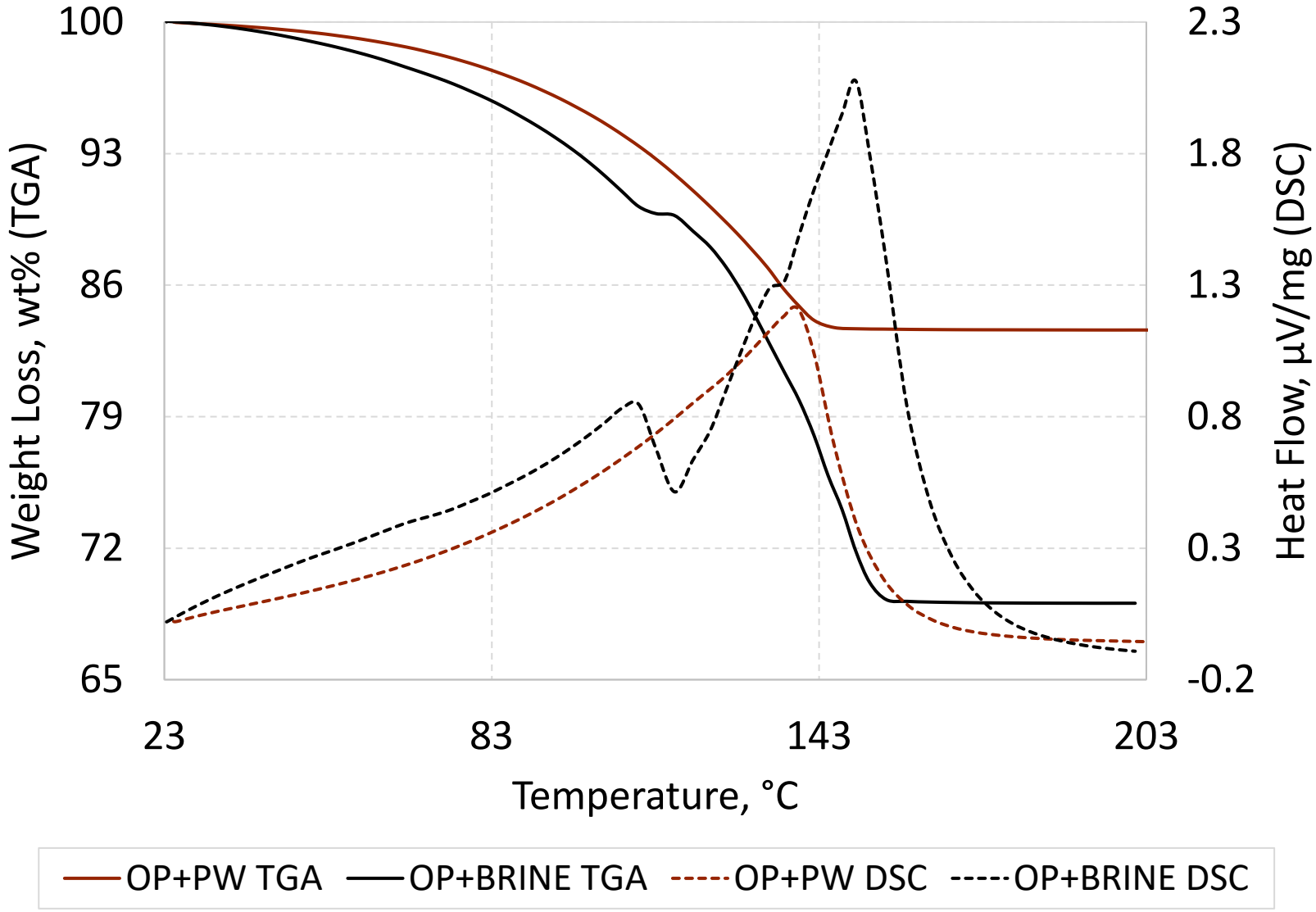
Initial results are given on a separate graph ➔ instead should be presented on the same graph.

Similarly, PW and brine alone should be subjected to TGA/DSC too. To see their individual behavior under heat.



Wrong

Do you need DSC plots really if your aim is to show only weight gain or loss?



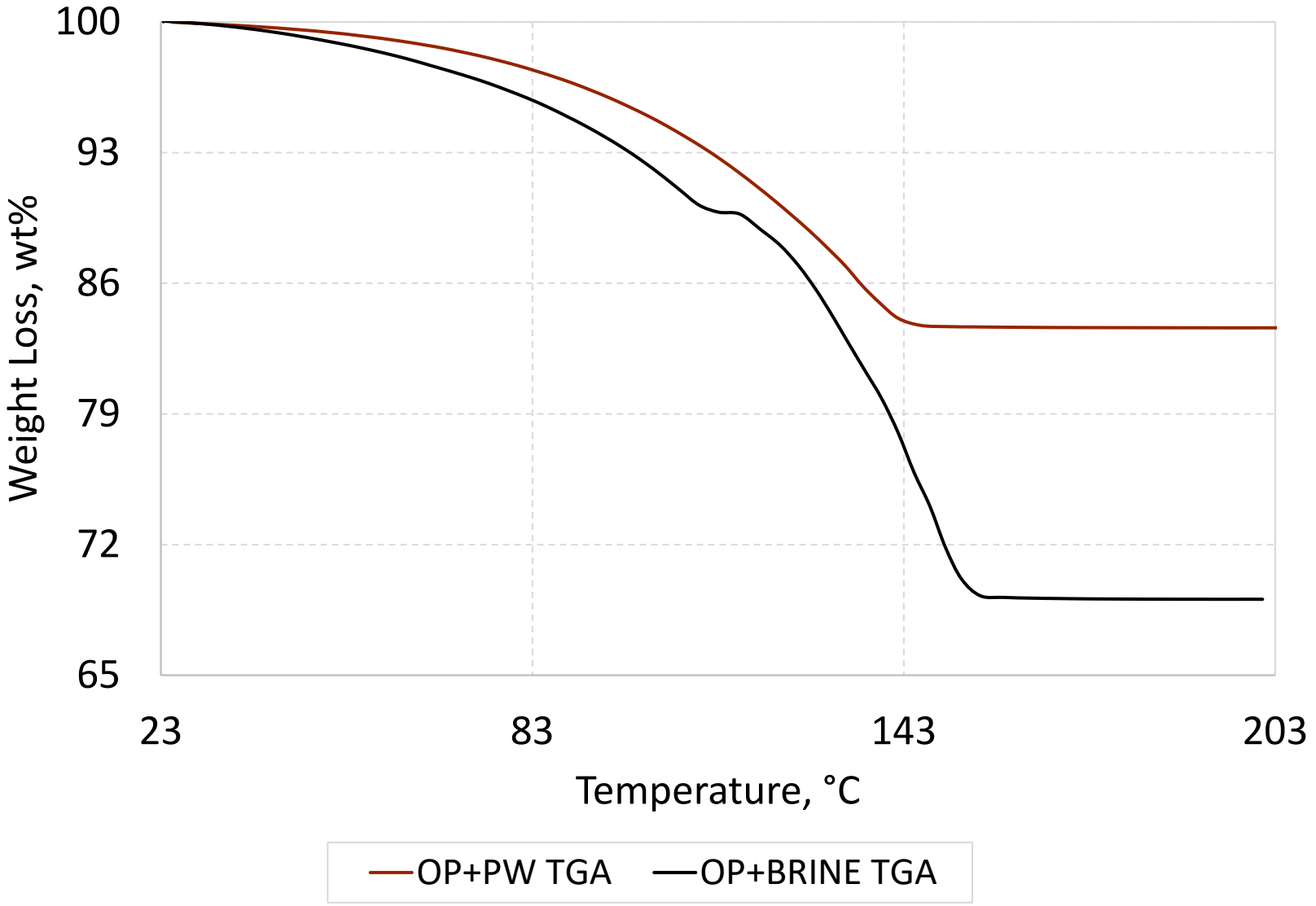
Better

If your aim is to show weight gain or loss only

Then, you need to eliminate TGA from y axis title and legend.

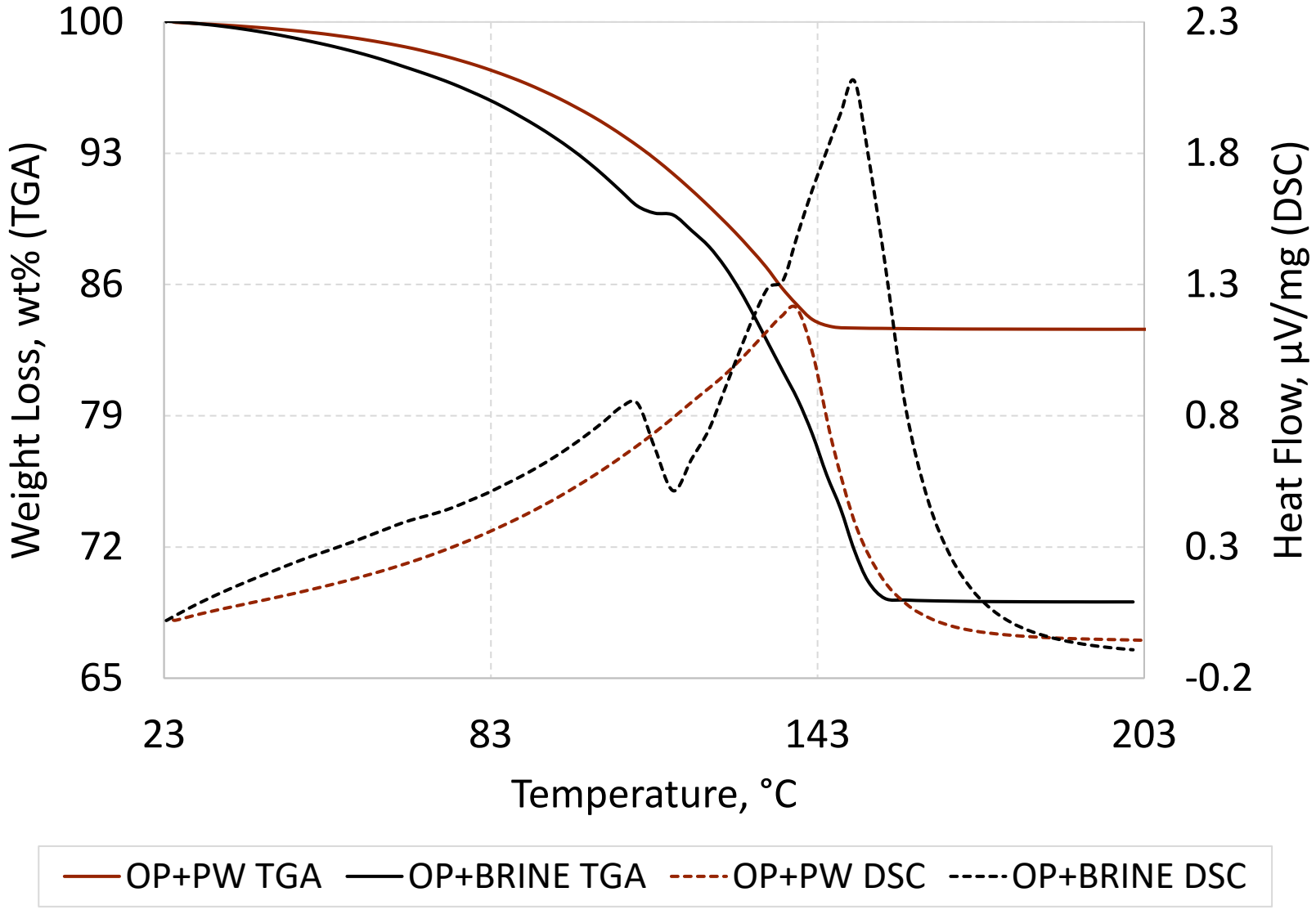
I do not have original excel file; I was not able to change the legend to remove TGA in the legend.

You still need to add initial sample TGA results to this plot to make it right.



Wrong

Do you need TGA plots really if your aim is to show only reactions or energy?



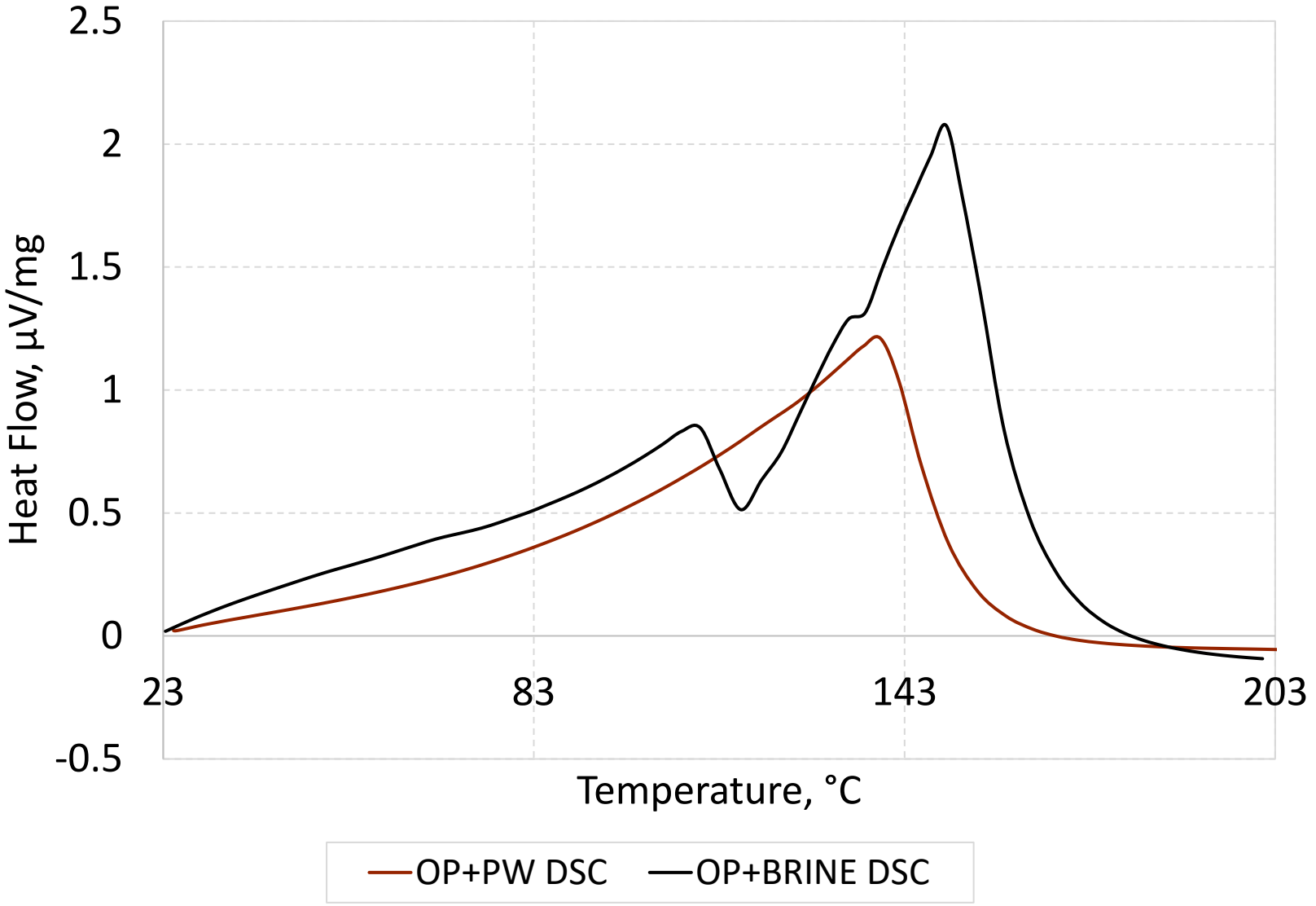
Better

If your aim is to show only reactions or energy.

Then, you need to eliminate DSC from y axis title and legend.

I do not have original excel file; I was not able to change the legend to remove DSC.

You still need to add initial sample DSC results to this plot.

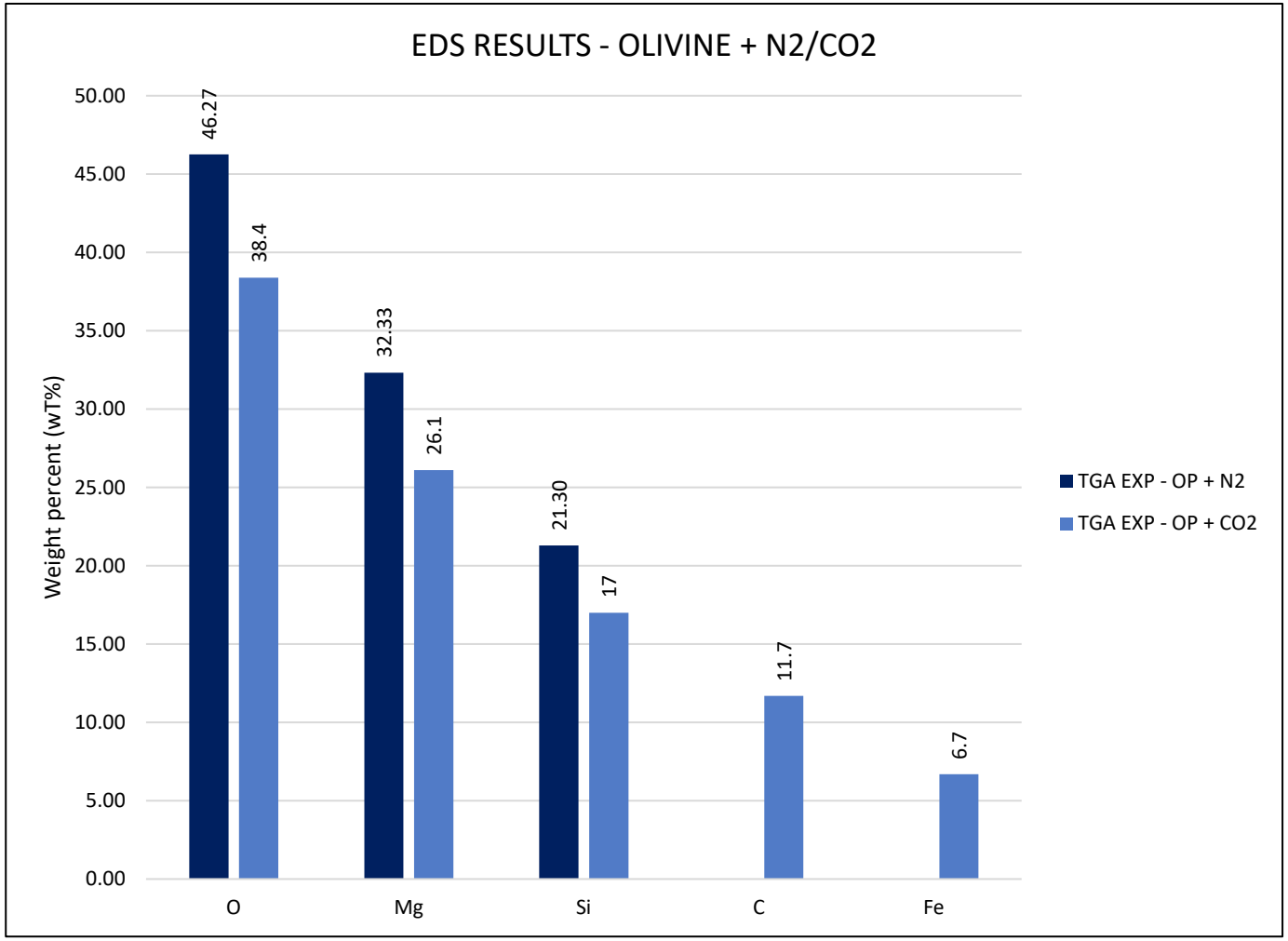


Makeup Issues-bar graph example

Wrong

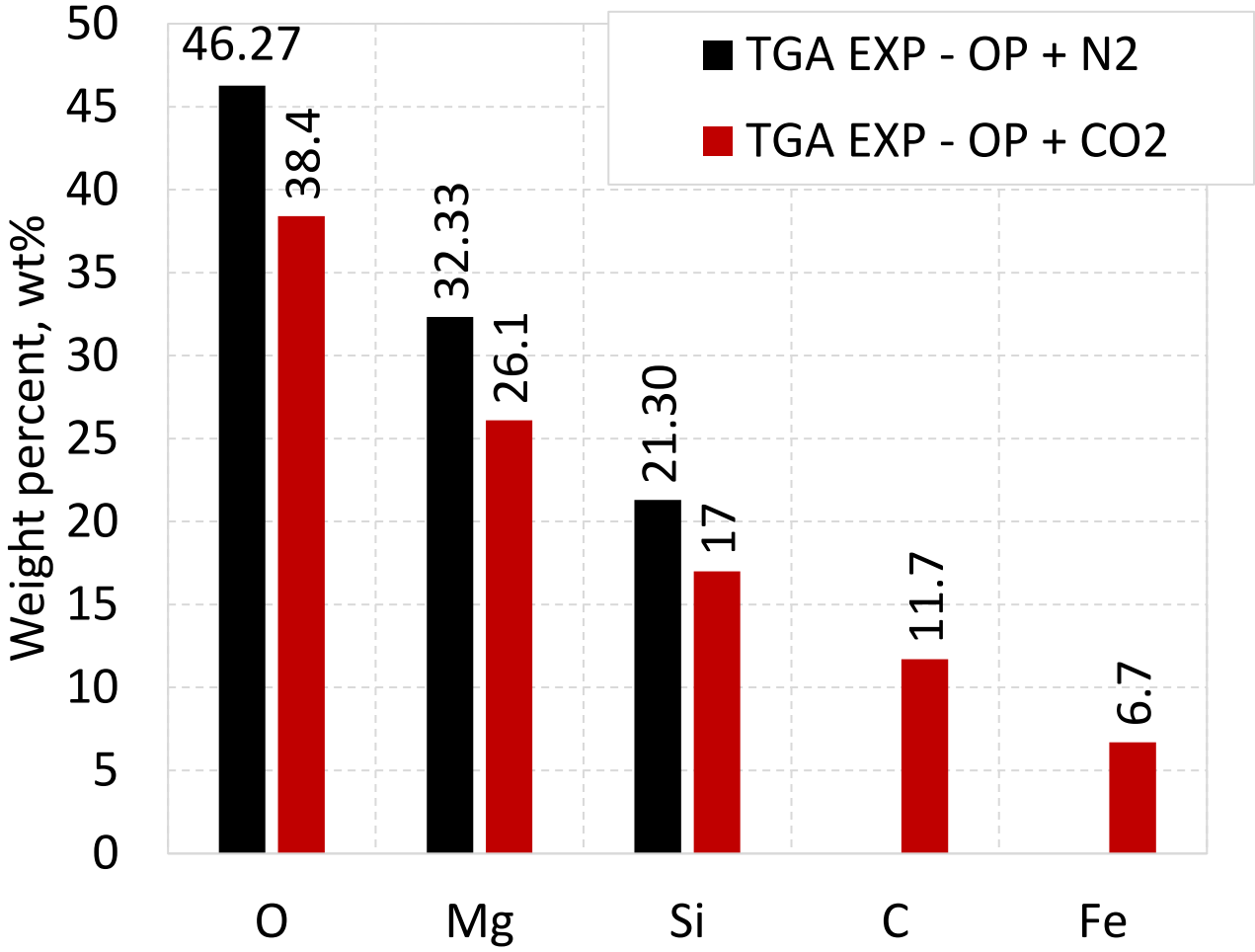
Because

1. Black frame around the graph
2. There is an unnecessary title in the graph
3. Y axis has unnecessary zeros after dot
4. Y axis title is given as wT%,
5. Legend has unnecessary words such as TGAEXP
6. Legend is not descriptive
7. Color selection is wrong



Better

- Because I want to take the attention to CO2 adsorption on mineral surface, I use red color for those results and black color for other results.
- In the legend TGA EXP should be removed



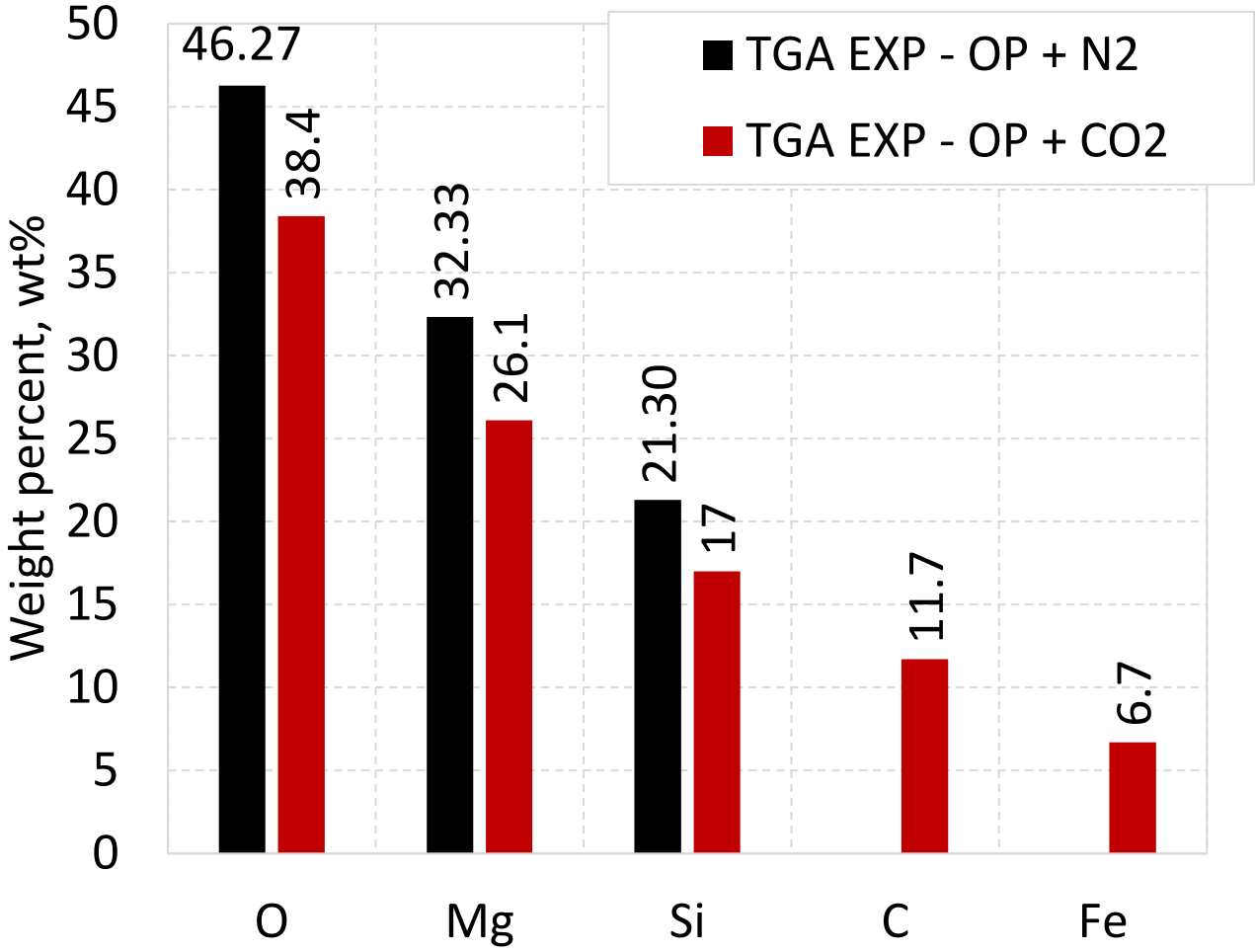
Scientific Meaning Issues

Wrong

Scientifically, does not have meaning. Because we need to compare these results with initial sample.

Initial results can be given in black, initial + N2 can be given in dark grey, and initial +CO2 can be given in red color

Initial results are provided to me on a separate graph ➔ instead should be presented on the same graph.



Makeup Issues-image examples

Wrong-because I am not able to see legend

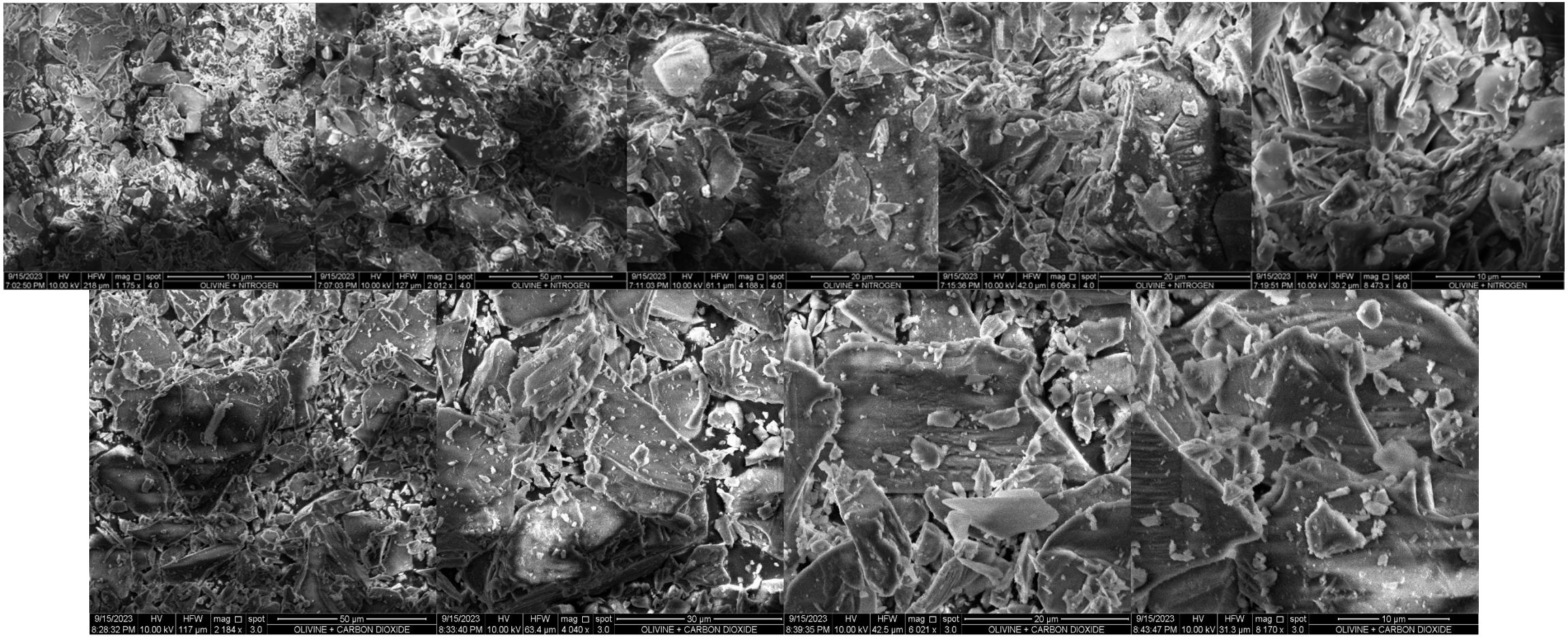
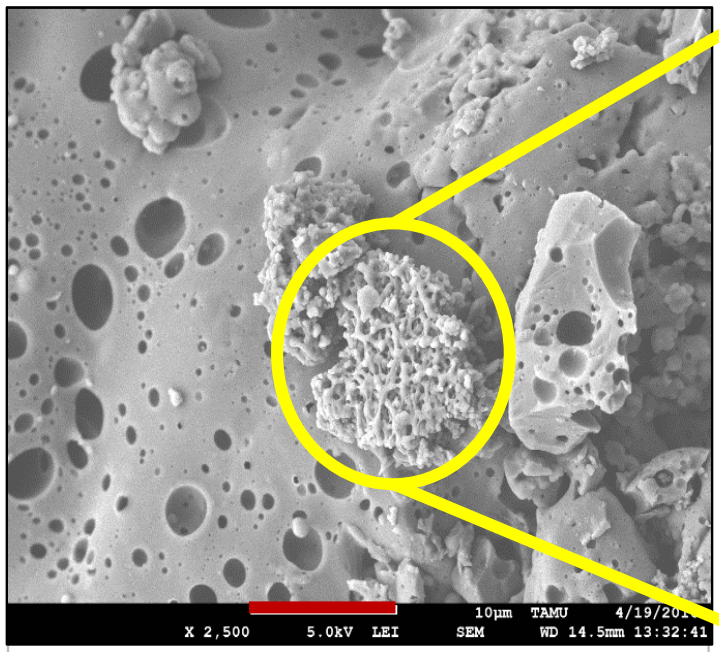


Figure 20. SEM images, comparison between N2 exposure (top) and CO2 exposure (bottom)

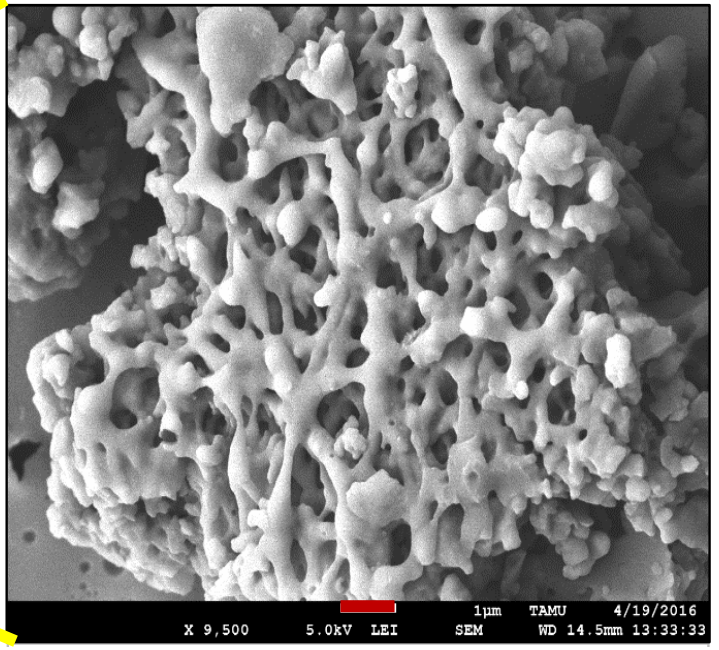
Better, I can see the scale (red lines in the figures) and because I can see which portion of the SEM image was zoomed in

Legend is visible, I highlight the scale of the graph in the legend with red.

This scale is very important and should be visible in all SEM images



2,500x



9,500x

Scientific Meaning Issues

Wrong-because images should be compared with initial sample

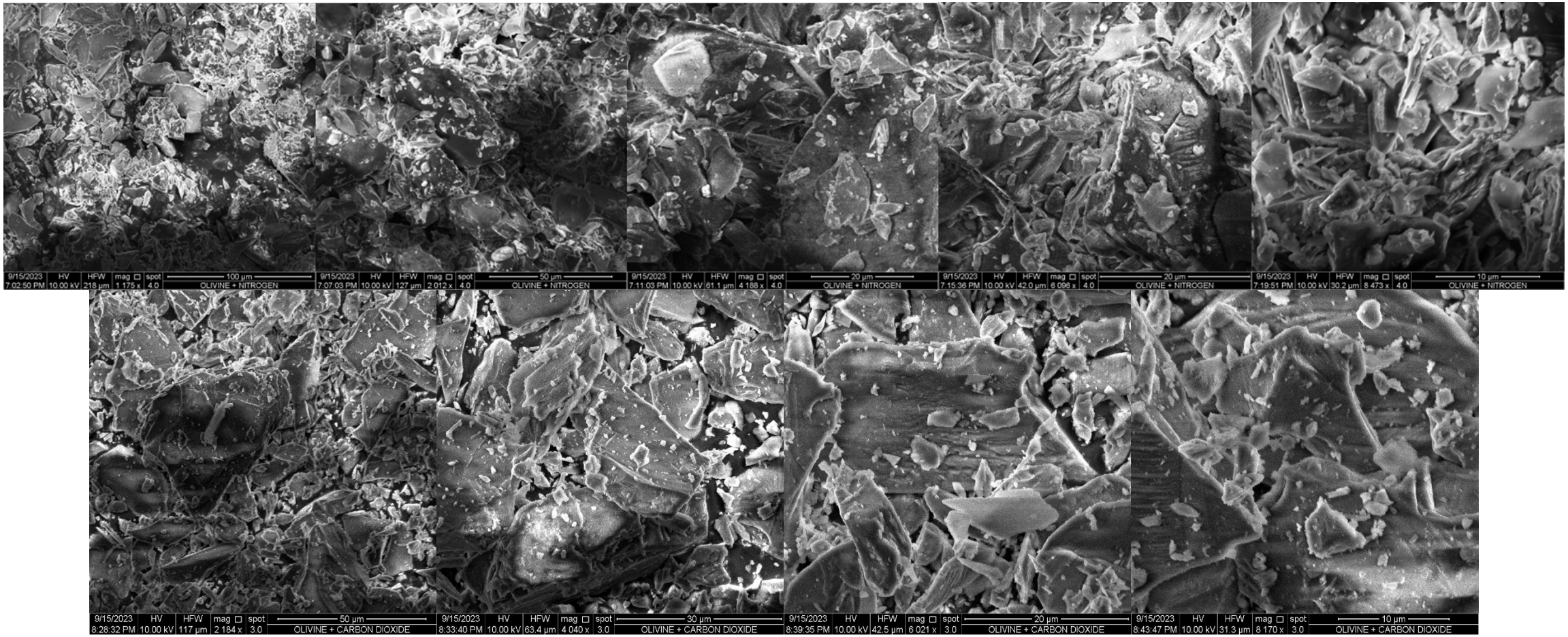
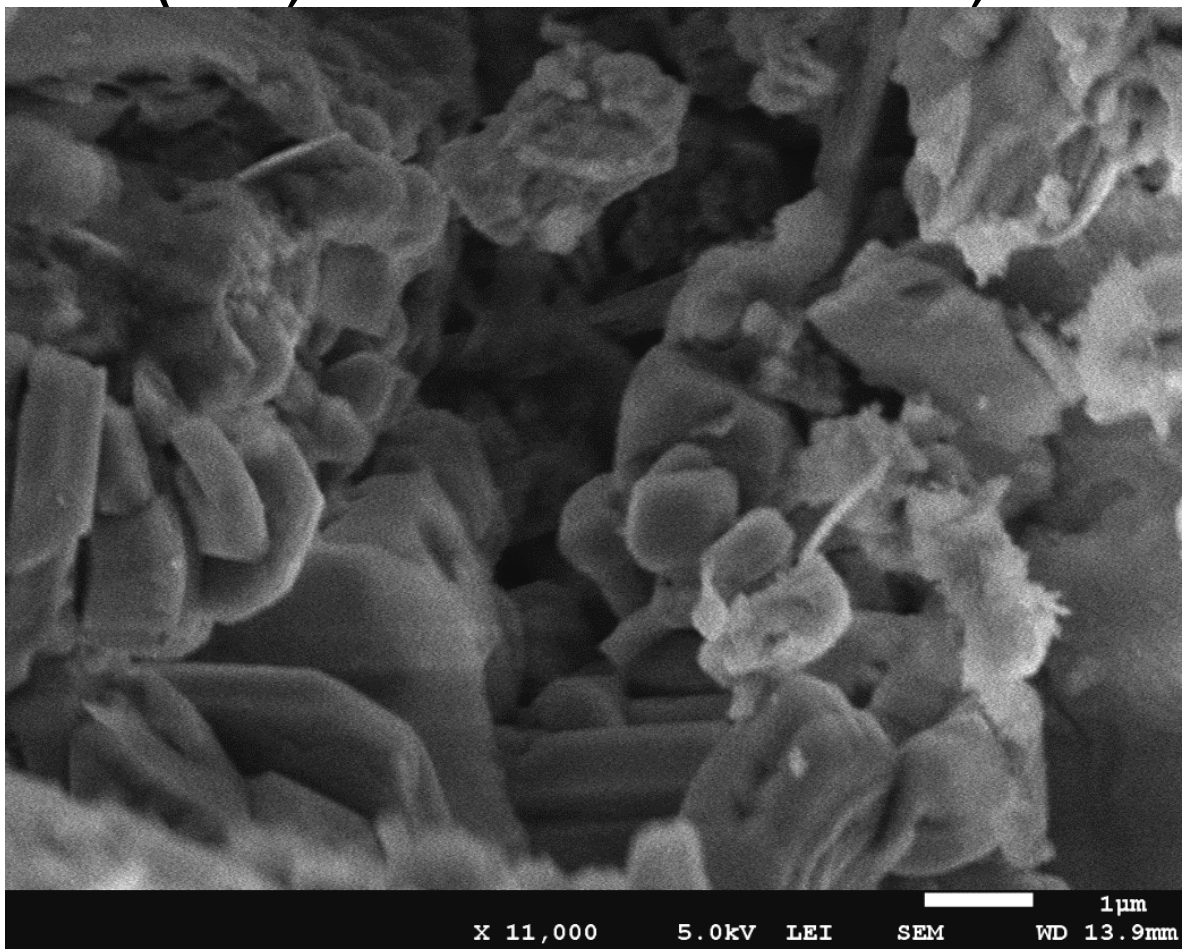
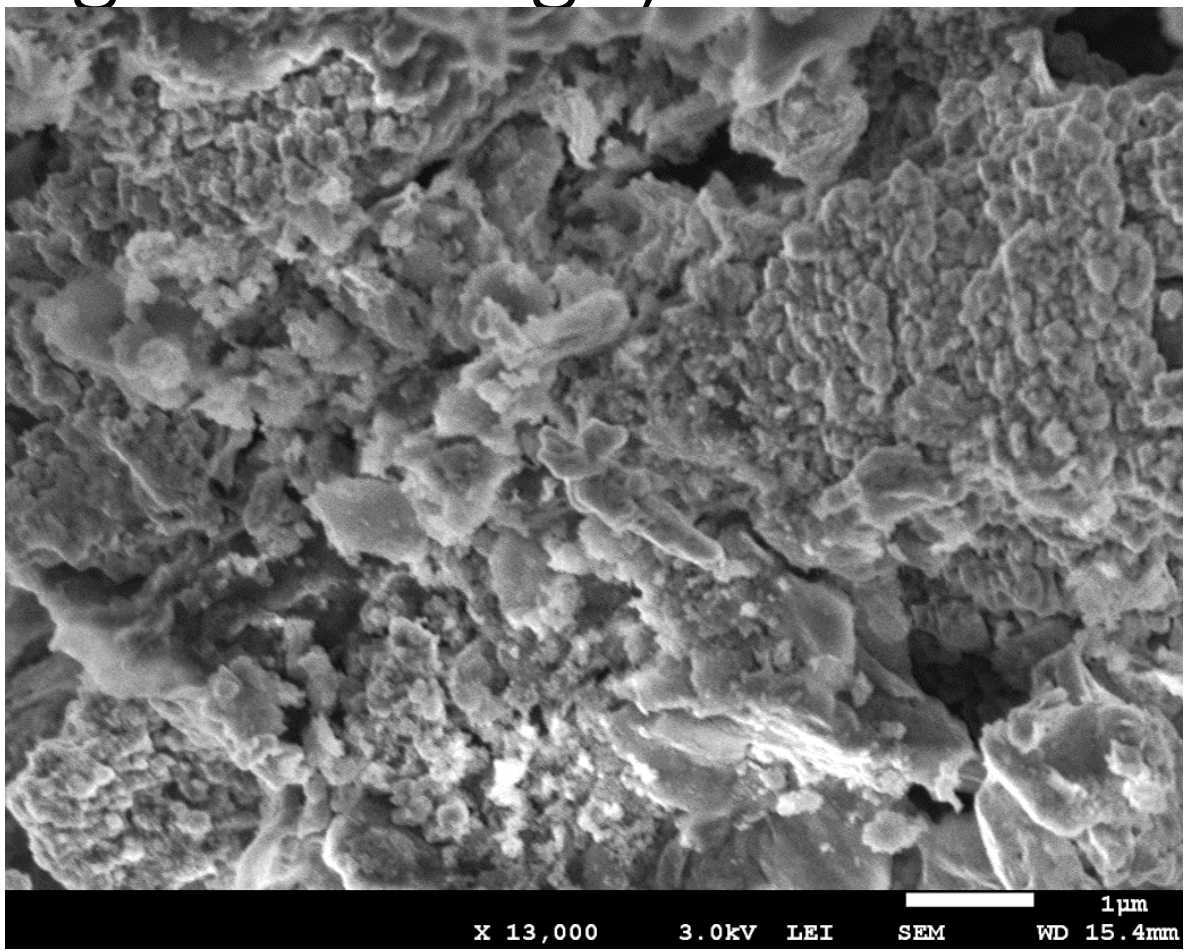


Figure 20. SEM images, comparison between N2 exposure (top) and CO2 exposure (bottom)

Better comparison (comparison should be at the same magnification too or closer magnification (11,000 x versus 13,000x is good enough)



Initial Sample



Initial Sample after treatment

Issues with thesis writing

Wrong

Because

- Black frame in chart area
- No frame in plot are
- No dashed lines for girds
- No grid use for x-axis
- Capital letters in axis titles
- Capital letters in legend
- Title in the figure
- Double zero after dot in the y-axis
- Unnecessary dots-on curves ➔ use just a line
- Light color (light grey, yellow) use on curves
- Figure caption is inserted as text box, (right way is Right click on the figure/table insert caption)

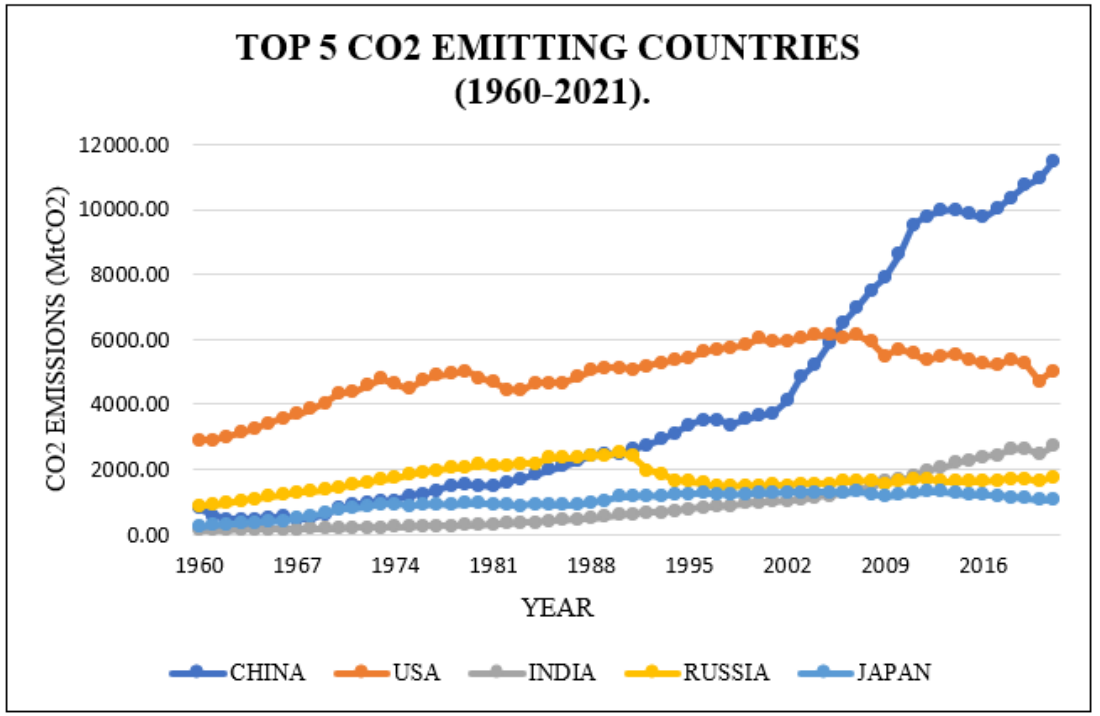


Figure 1. Top 5 CO_2 emitting countries (1960-2021).

9

- Figure title is not descriptive enough
- First 9 (from one to nine) numbers should be written,
- accordingly, it is not “5” but “five”
- Not CO2 but CO_2

Better- I only could not correct the capital letters in the legend because I do not have the excel file

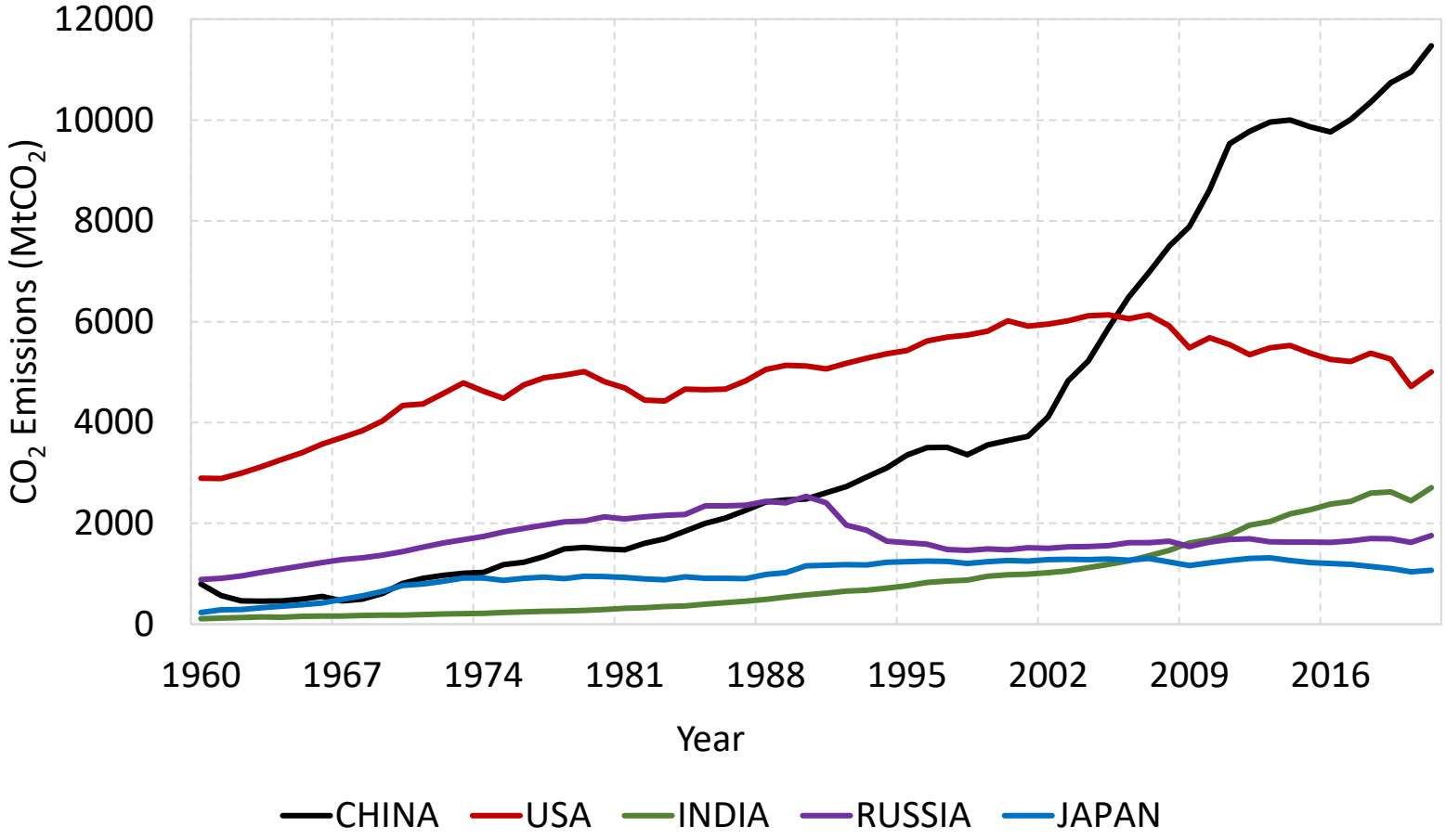


Figure 1: Leading Five CO_2 Emitting Nations between 1960 and 2021. Adapted from(give reference here to this data)

Wrong

- Black frame in chart area
- No frame in plot are
- No dashed lines for girds
- No grid use for y-axis
- Capital letters in axis titles
- Capital letters in legend
- Title in the figure (no need to have a title in the graph and then below the graph)
- Double zero after dot in the x-axis
- No Numeric values on bar graphs
- Light color (light grey, yellow) use on curve
- Do not insert captions as text box, Right click on the figure/table insert caption

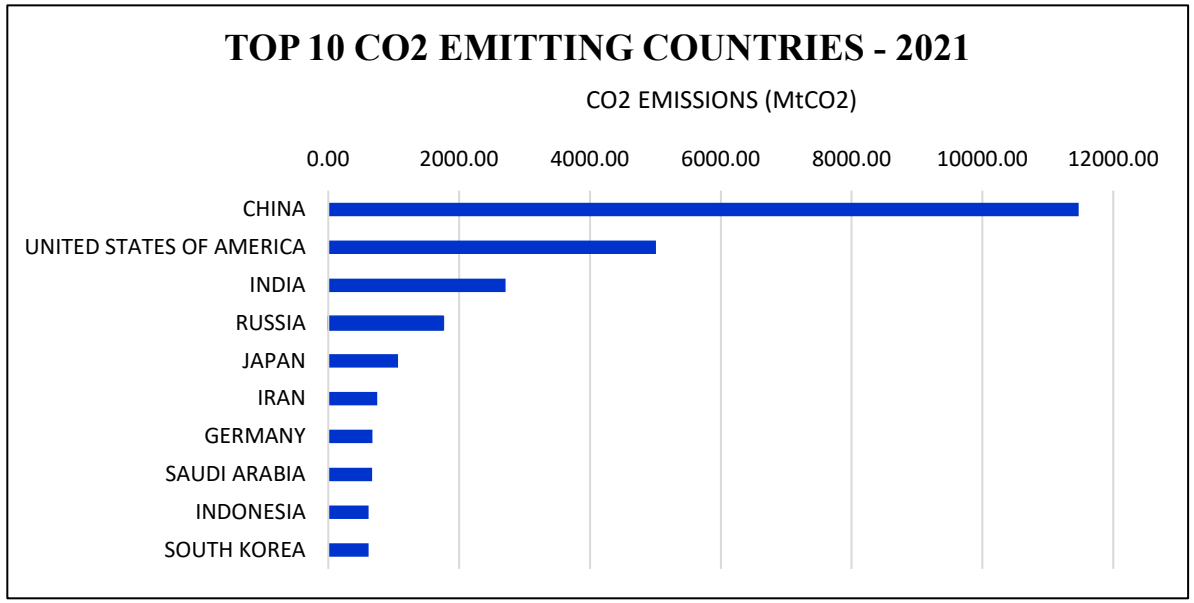


Figure 2. Top 10 CO_2 emitting countries (2021).

- Figure title is not descriptive enough
- Not CO2 but CO_2

Better- I only could not correct the capital letters in the y-axis because I do not have the excel file

Instead of United States of America, use USA or US

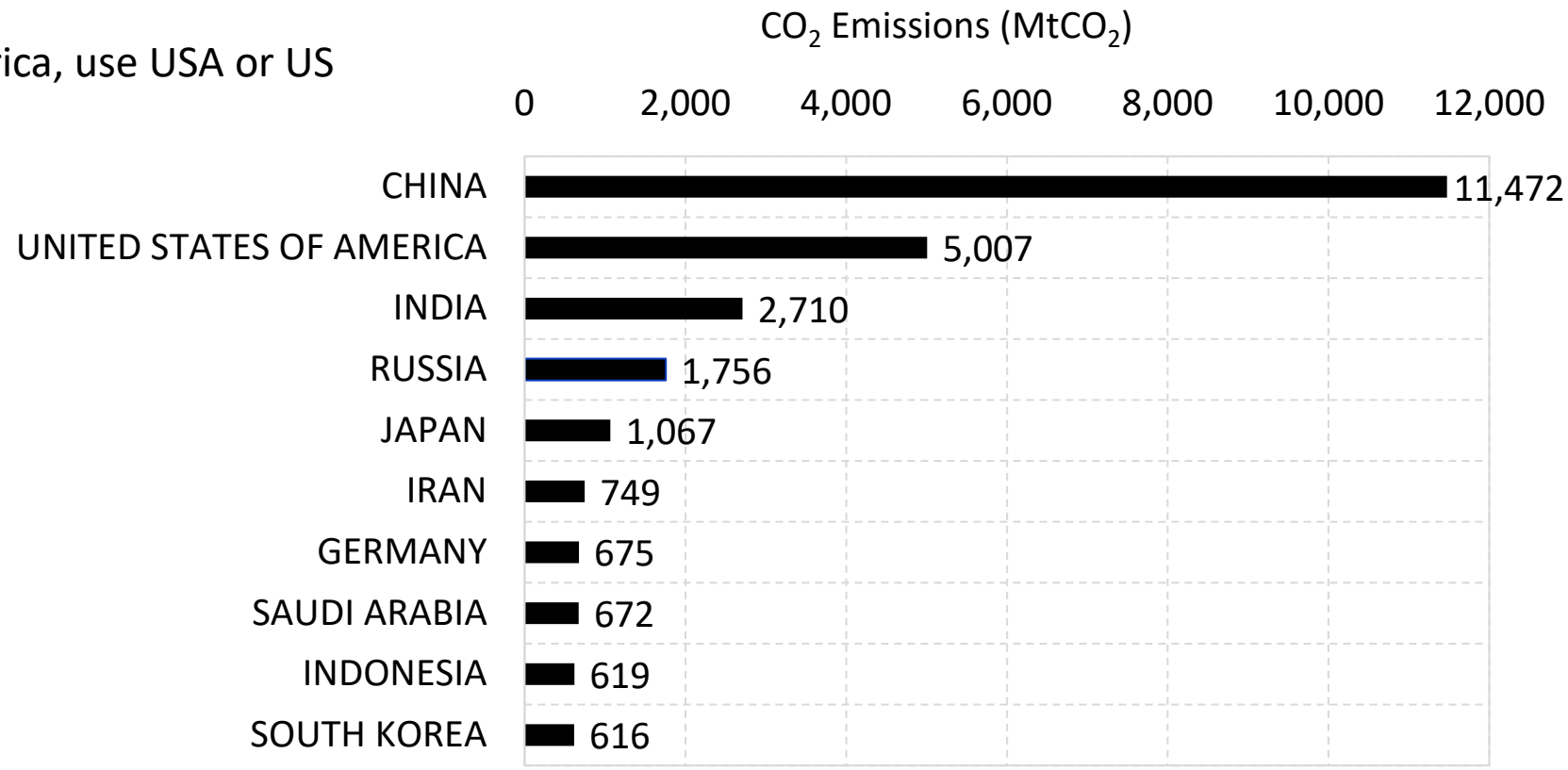


Figure 2: Top 10 CO_2 Emitting Countries in 2021.Adapted from(give reference here to this data)

Wrong

- Commonly found calcium rich minerals in where?
- Title is not descriptive
- Form the title by right click and add caption
- Do not add title of a figure or table by using text box
- You may consider to add more information about minerals
- Let's say crystal structure, because both calcite and aragonite has the same chemical formula, so why they have different names can be explained by crystal structure.
- Mineral name can be reorganized alphabetically which will make table easy to read.

Table 1. Commonly found calcium rich minerals.

Mineral Name	Chemical formula
Fluorite	CaF_2
Calcite	$CaCO_3$
Anhydrite	$CaSO_4$
Aragonite	$CaCO_3$
Titanite	$CaTiSiO_5$
Wollastonite	$CaSiO_3$
Gypsum	$CaSO_4 \cdot 2H_2O$
Dolomite	$CaMg(C0_3)_2$
Pectolite	$NaCa_2Si_3O_8(OH)$
Epidote	$Ca_2(Al, Fe)_3(Si0_{4)})_3(OH)$
Actinolite	$Ca_2(Mg, Fe)_5Si_8O_{22}(OH)_2$
Tremolite	$Ca_2(Mg, Fe)_5Si_8O_{22}(OH)_2$
Fluorapophyllite	$KCaSi_8O_{20}(F, OH) \cdot 8H_2O$
Vesuvianite.	$Ca_{10}Mg_2Al_4(SiO_4)_5(Si_2O_7)_2(OH)_4$

Better

Do alphabetic order for the similar tables too.

Add necessary columns too.

Mineral Name	Chemical formula	Crystal Structure	Any other important information that you need to list such as ultramafic rocks? Type of rock?
Actinolite	$Ca_2(Mg, Fe)_5Si_8O_{22}(OH)_2$		
Anhydrite	$CaSO_4$		
Aragonite	$CaCO_3$		
Calcite	$CaCO_3$		
Dolomite	$CaMg(C0_3)_2$		
Epidote	$Ca_2(Al, Fe)_3(Si0_4)_3(OH)$		
Fluorite	CaF_2		
Fluorapophyllite	$KCaSi_8O_{20}(F, OH) \cdot 8H_2O$		
Gypsum	$CaSO_4 \cdot 2H_2O$		
Pectolite	$NaCa_2Si_3O_8(OH)$		
Titanite	$CaTiSiO_5$		
Tremolite	$Ca_2(Mg, Fe)_5Si_8O_{22}(OH)_2$		
Vesuvianite.	$Ca_{10}Mg_2Al_4(SiO_4)_5(Si_2O_7)_2(OH)_4$		
Wollastonite	$CaSiO_3$		

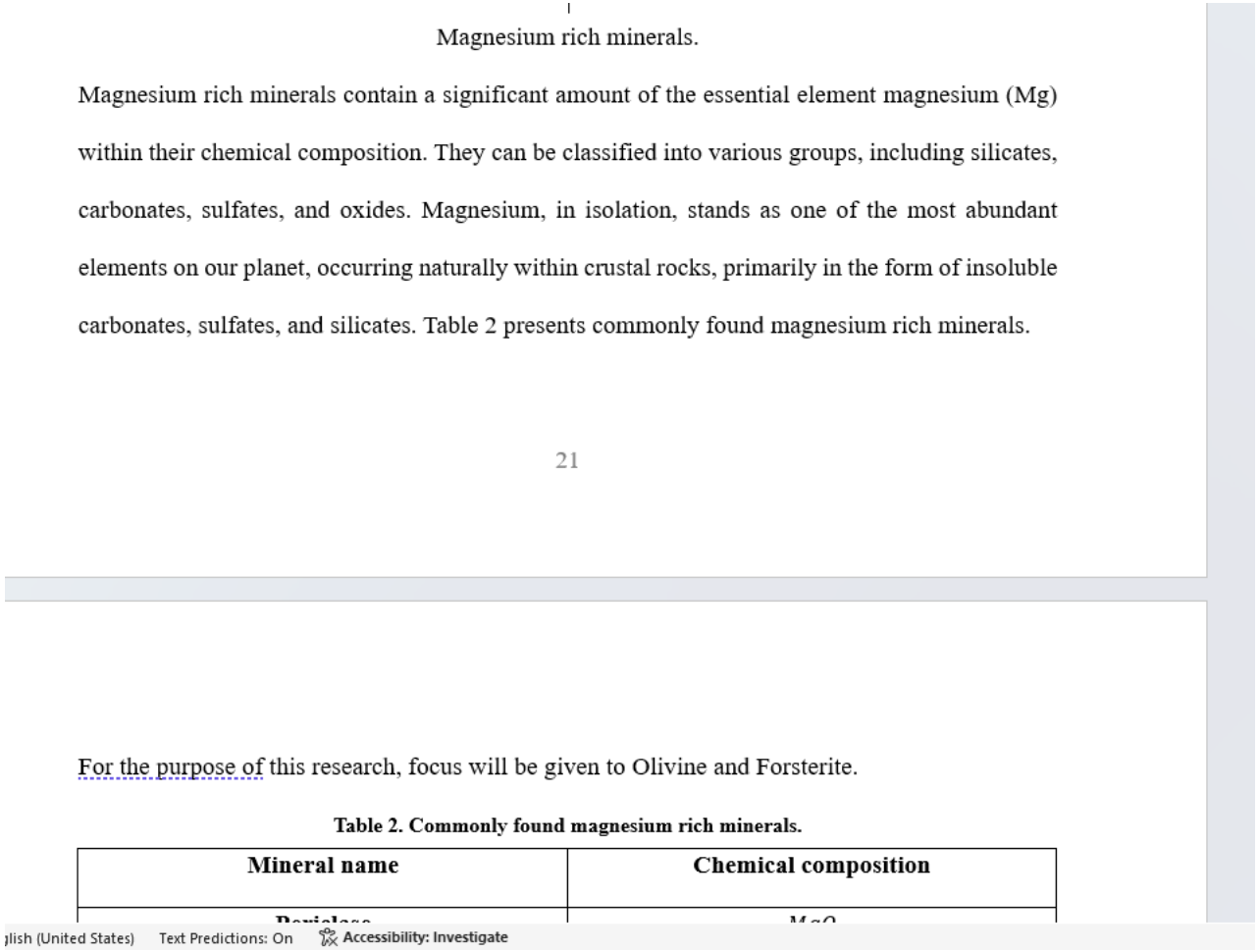
Wrong : do the similar corrections for every similar title in the thesis

Title should be given with numbers
Accordingly,

Not “Magnesium rich minerals”
But
2.1.1. Magnesium-rich minerals

Text should have several reference embedded to it
Accordingly,

Not “Magnesium rich minerals contain….. They can be classified….. . Magnesium…..”
But
“Magnesium rich minerals contain…. (REF1). They can be classified….. (REF2) . Magnesium…. (REF3).”



Magnesium rich minerals.

Magnesium rich minerals contain a significant amount of the essential element magnesium (Mg) within their chemical composition. They can be classified into various groups, including silicates, carbonates, sulfates, and oxides. Magnesium, in isolation, stands as one of the most abundant elements on our planet, occurring naturally within crustal rocks, primarily in the form of insoluble carbonates, sulfates, and silicates. Table 2 presents commonly found magnesium rich minerals.

21

For the purpose of this research, focus will be given to Olivine and Forsterite.

Table 2. Commonly found magnesium rich minerals.

Mineral name	Chemical composition
Periclase	MgO

lish (United States) Text Predictions: On Accessibility: Investigate

Grammar, punctuation, etc. check red comma

- Not “CO2” “N2”
- But “CO_2. “N_2”
- Check thesis for errors

Compositional analysis post experiment.

After the experiment is completed, it becomes necessary to repeat a compositional analysis using SEM-EDS analysis utilizing the Quanta Sem 600 instrument. The purpose of this step is to observe any compositional changes that might have happened after the experiment was completed, and to verify that the reaction was extensive enough to be considered a successful experiment. Through the SEM images and the EDS analysis, we are able to appreciate any changes as minimal as they are. Once the result are obtained from this analysis, we can determine which one out of the four cases, can be considered as the most successful. The result of each set of minerals will be discussed in the results and discussion portion of this thesis.

Materials and Methods

In describing the materials and methods for your research, ensure to include detailed information supported by appropriate references, and integrate your own figures with descriptive titles, as illustrated in the following slides.

Detail the origins and characteristics of the crude oil and water samples used, such as their collection locations and initial properties like API gravity, viscosity, and total dissolved solids content, either at standard conditions or at specified pressure and temperature conditions.

Specify the chemicals employed, such as viscosity reducers and coagulants, including their types (e.g., aromatic hydrocarbons, inorganic coagulants), molecular weight, molecular formula, density, specific gravity, flammability, solvent power, and any other specifications relevant to your study.

For solid materials like sand and clay, describe the porosity, permeability, and mesh size.

Regarding the methods, elaborate on the machinery and equipment used in experiments, including the brand name, detection limits, error ranges, and references to the methods employed. For example, the thermal properties were analyzed using a Netzsch STA 449 TGA/DSC thermal analyzer, as per ASTM 2014 standards.

Explain the core flooding apparatus, including the pump and gauges connected to it, and detail the jar test procedure, specifying the jar test apparatus brand, mixing speed limits, and the mixing speeds used.

In your narrative, avoid using itemized explanations and limit the use of subtitles, aiming for a cohesive and integrated description of the methods and materials.

Materials and Methods-Good example

Why Good?
Because

1. Figure is readable and easy to understand
2. Title of the figure is very descriptive and contains references

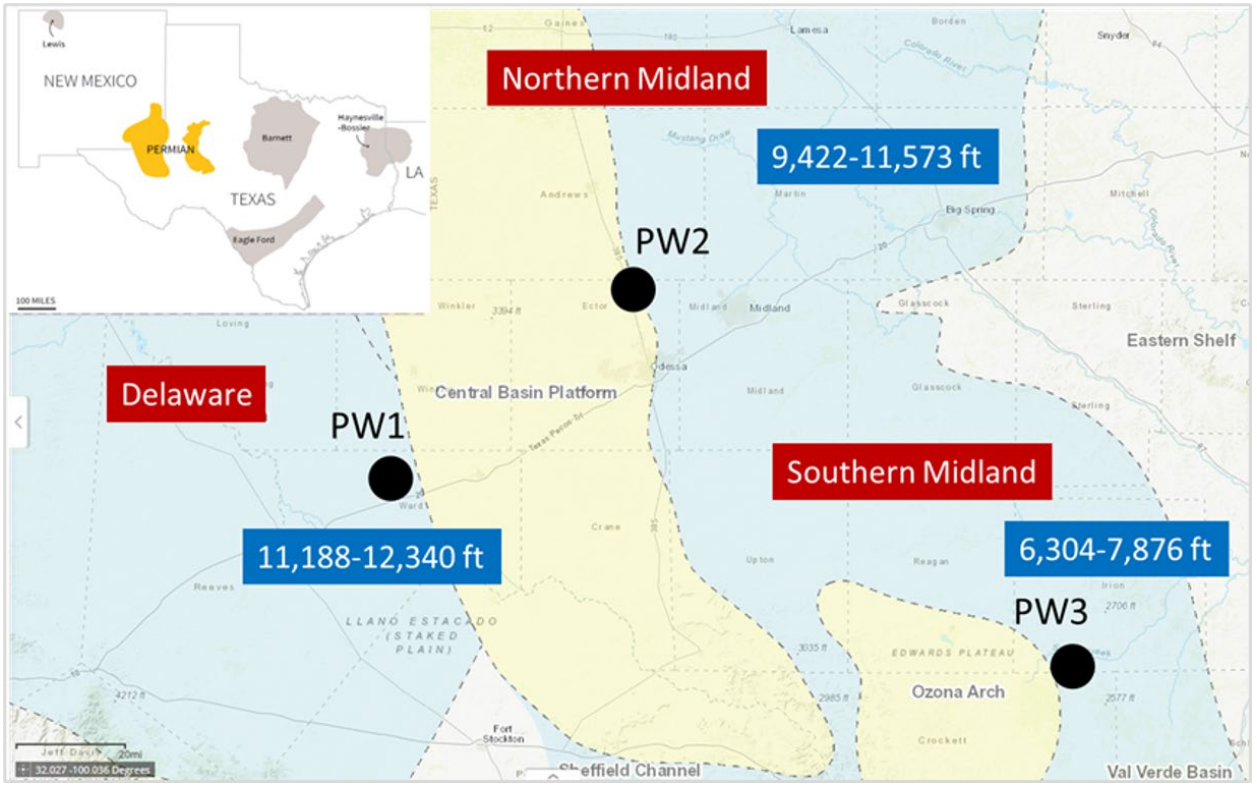


Figure 1 Location of Selected Wells (given in red) and Sub Basin Depths (given in blue) in the Permian Basin (Kaishentayev 2021; Zhang, 2020).

Materials and Methods-Good example

Why Good?
Because

1. Figure is readable and easy to understand
2. Title of the figure is very descriptive
3. I can only criticize the frame of the figure; I would select grey rather than black as figure frame.
4. It might be a good idea to present the real picture of the figure in this schematic diagram too.

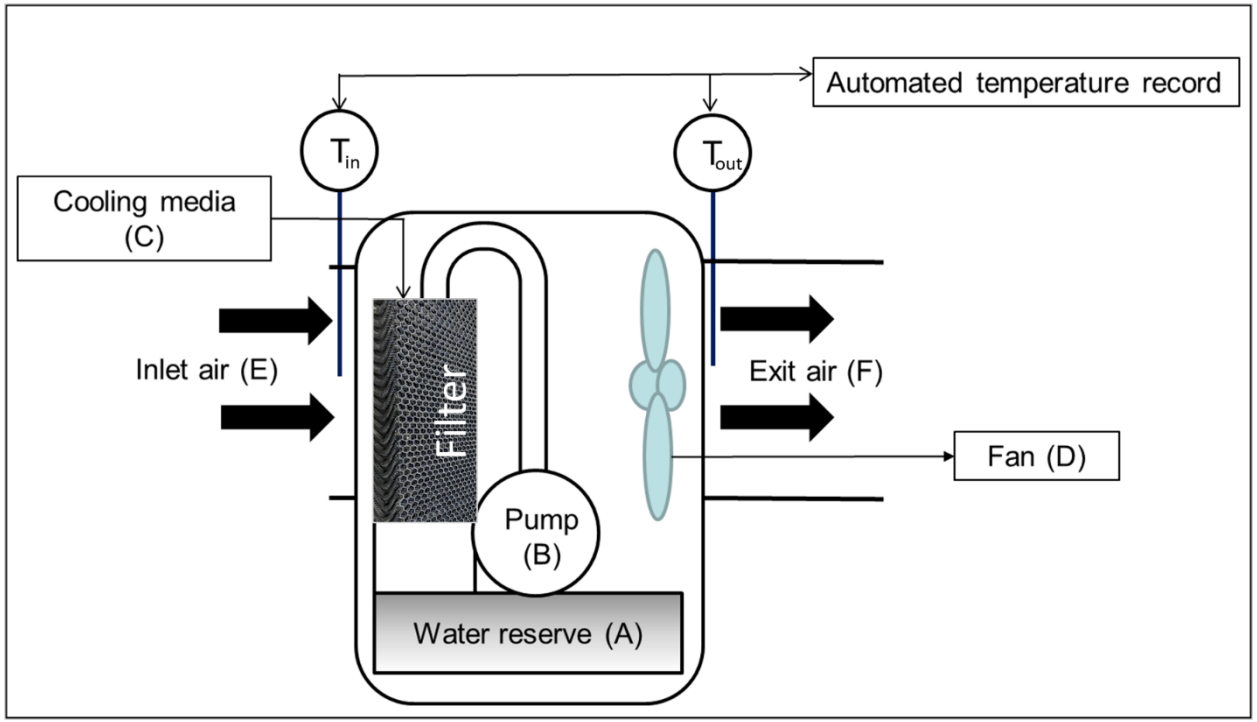


Figure 3 Experimental Setup for Evaporative Cooling System: A - reserve tank for the feed water, B- water pump that continuously wets filter, C- polypropylene evaporative cooling pad (with length 23.5 in and breadth 21.5 in), and D- Motor fan drawing in air from the inlet to the outlet.

Results and Discussions

- When presenting a table or figure in your paper, it is essential to first explain what the table or figure shows, followed by a discussion of its implications. Below is an example illustrating how to differentiate between the explanation and discussion of a table.
- Explanation of Table 3:

Table 3 illustrates the results of initial oil combustion using TGA/DSC, characterized by a constant heating rate under air injection. It identifies three distinct thermal regions: the water evaporation zone (25-157 °C), the low temperature oxidation (LTO) zone (158-407 °C), and the high temperature oxidation (HTO) zone (408-650 °C) as shown in Figure A2 A and B. In contrast, when bitumen is combusted in the presence of carbonate rocks, four regions are identified: water evaporation, LTO zone, HTO zone, and carbonate decomposition, also illustrated in Figure A2 A and B.

- Discussion of Table 3:

The data from Table 3 suggest that the aromatic fractions tend to react predominantly with calcite (Test 10) and not with dolomite (Test 11), as detailed in Figure A2 F. Given that aromatic rings are also found in resins and asphaltenes (Wang et al., 1994), their presence tends to lower the heat generation in reactions involving dolomite. On the other hand, calcite not only enhances heat generation during combustion but also raises the activation energy required in the HTO region. Therefore, it can be inferred that although the presence of carbonates in in-situ combustion (ISC) can be advantageous, the heat generation may be mitigated by the resin fraction in this particular type of bitumen.

Results and Discussions-wrong

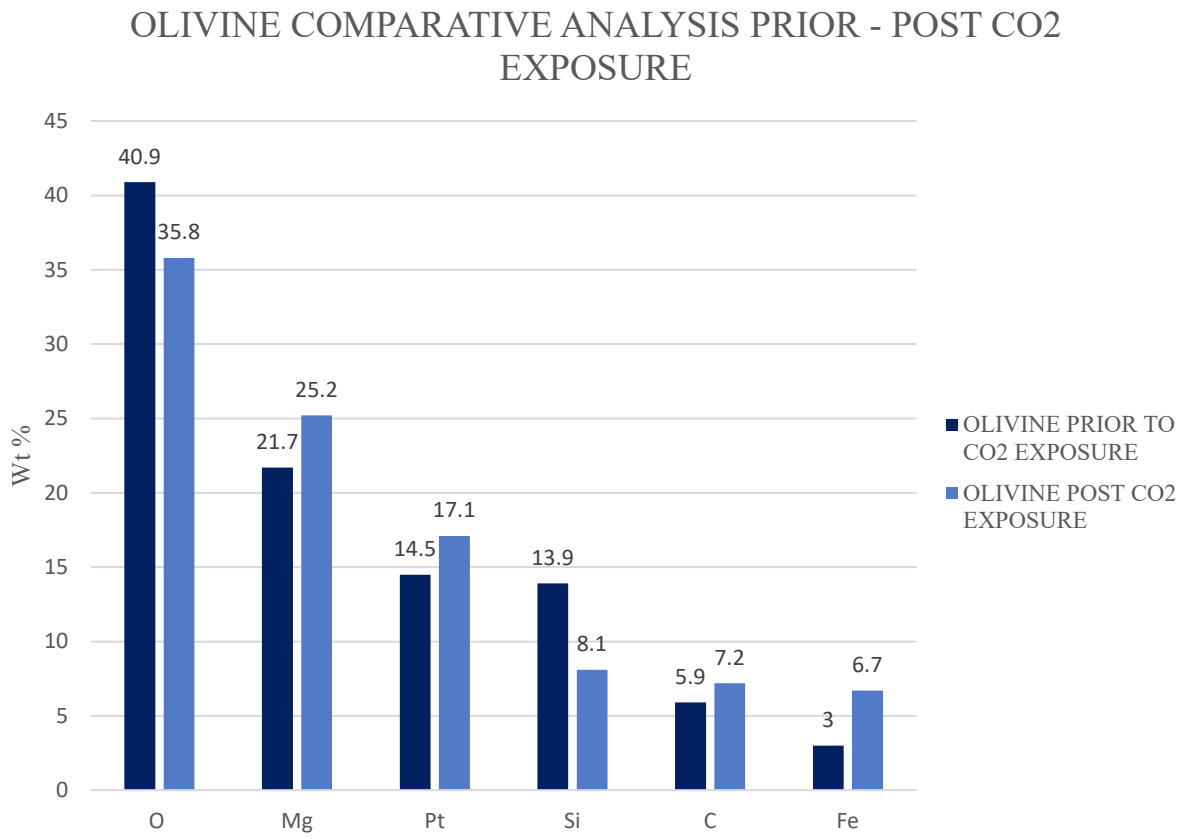


Figure 10. Olivine EDS comparative analysis prior – post CO_2 exposure (300 psi).

Results and Discussions-better

I am not able to change the legend titles, but they are not right

- Black bars can be named as “Initial Olivine”
- Red bars “Olivine after exposed to CO_2”

We are trying to take the attention to CO2 exposed olivine, this is why I selected red color for those results.

figure title is better now.

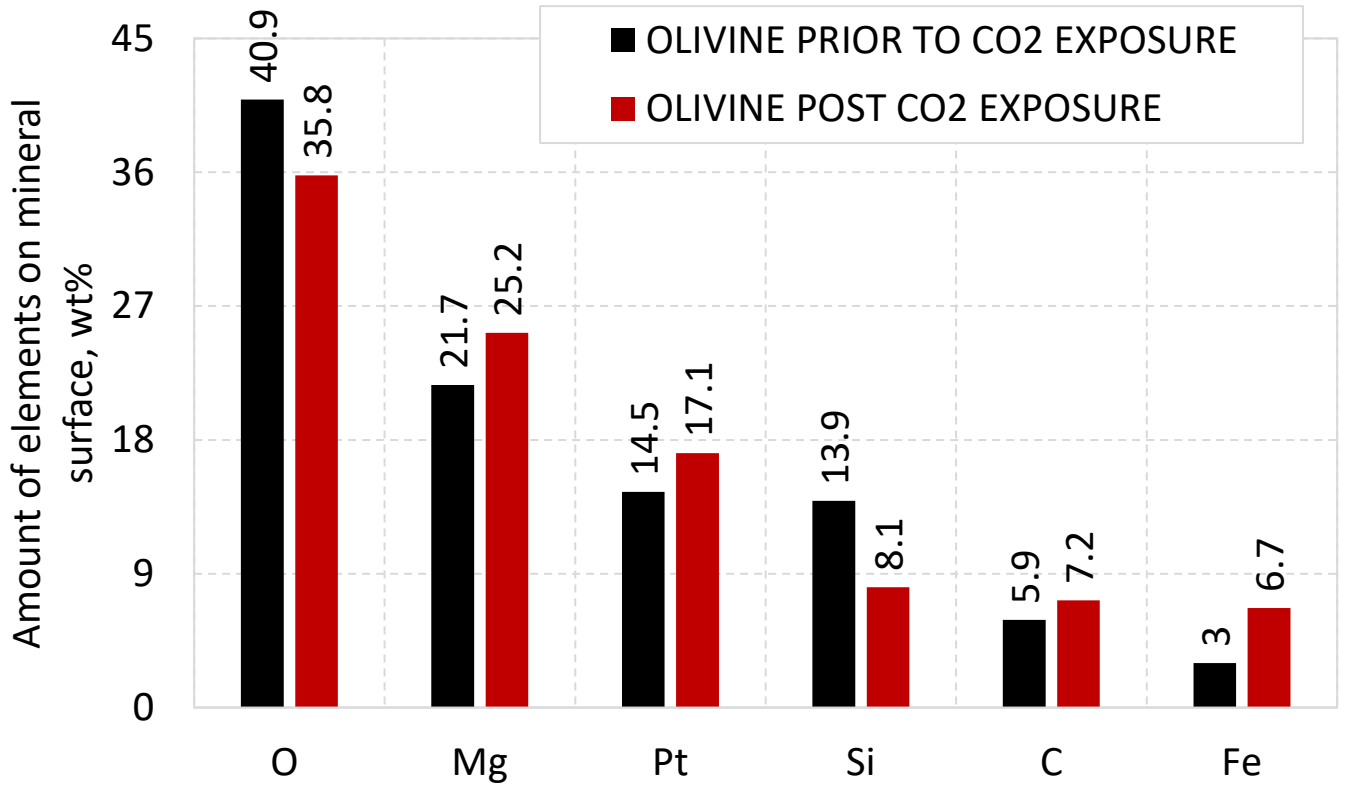


Figure 10. Elemental Composition of Olivine Surfaces Prior to (Indicated by Black Bars) and Following (Indicated by Red Bars) Exposure to CO_2 at 300 psi.

Wrong

- Use same/similar color for similar graphs within the same document (docx, pptx, xlsx)
- Always compare your results with initial samples.
- Do not use double zero after dot,
- Weight is not a descriptive y-axis title.