GENOTOXICITY OF POLYCYCLIC AROMATIC HYDROCARBONS COMPLEX MIXTURE IN HUMAN CIRCULATING BLOOD CELLS: TRANSLATION OF A REAL-SCENARIO EXPOSURE TO IN VITRO

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AIR POLLUTION FACTS



Air pollution is a mixture of more than 20 compounds

99% of people breathe air that exceeds WHO guideline

15% lung

cancer

mortality

increase for

every 10

µg/m PM

Indoor air pollution was responsible for an estimated 3.2 million deaths per year in

EXPERIMENTAL DESIGN

N = 3 (2 females and 1 male) age: 27 - 30

with 6.7 million limits deaths 2020 annually

Combined

effects of

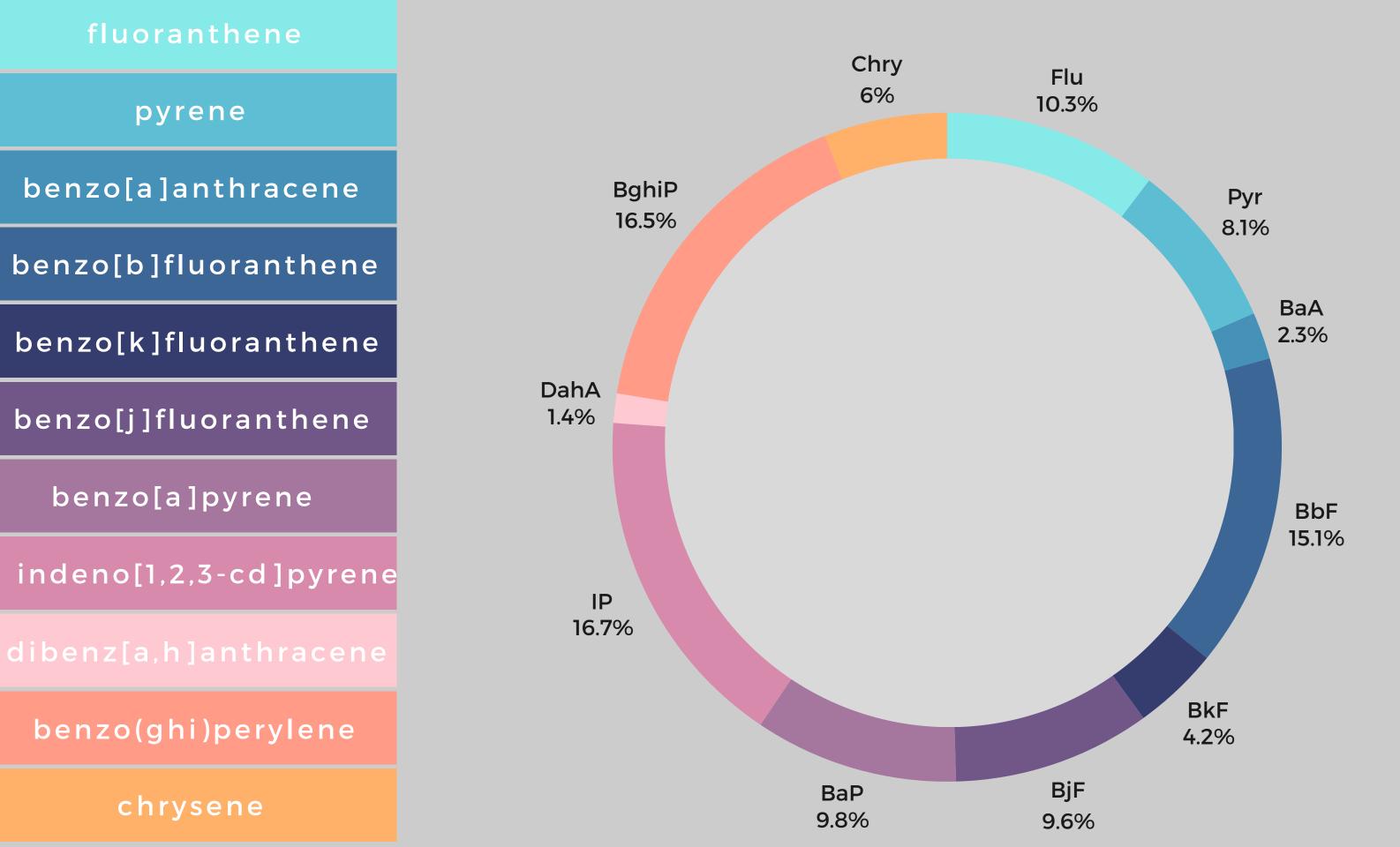
outdoor and

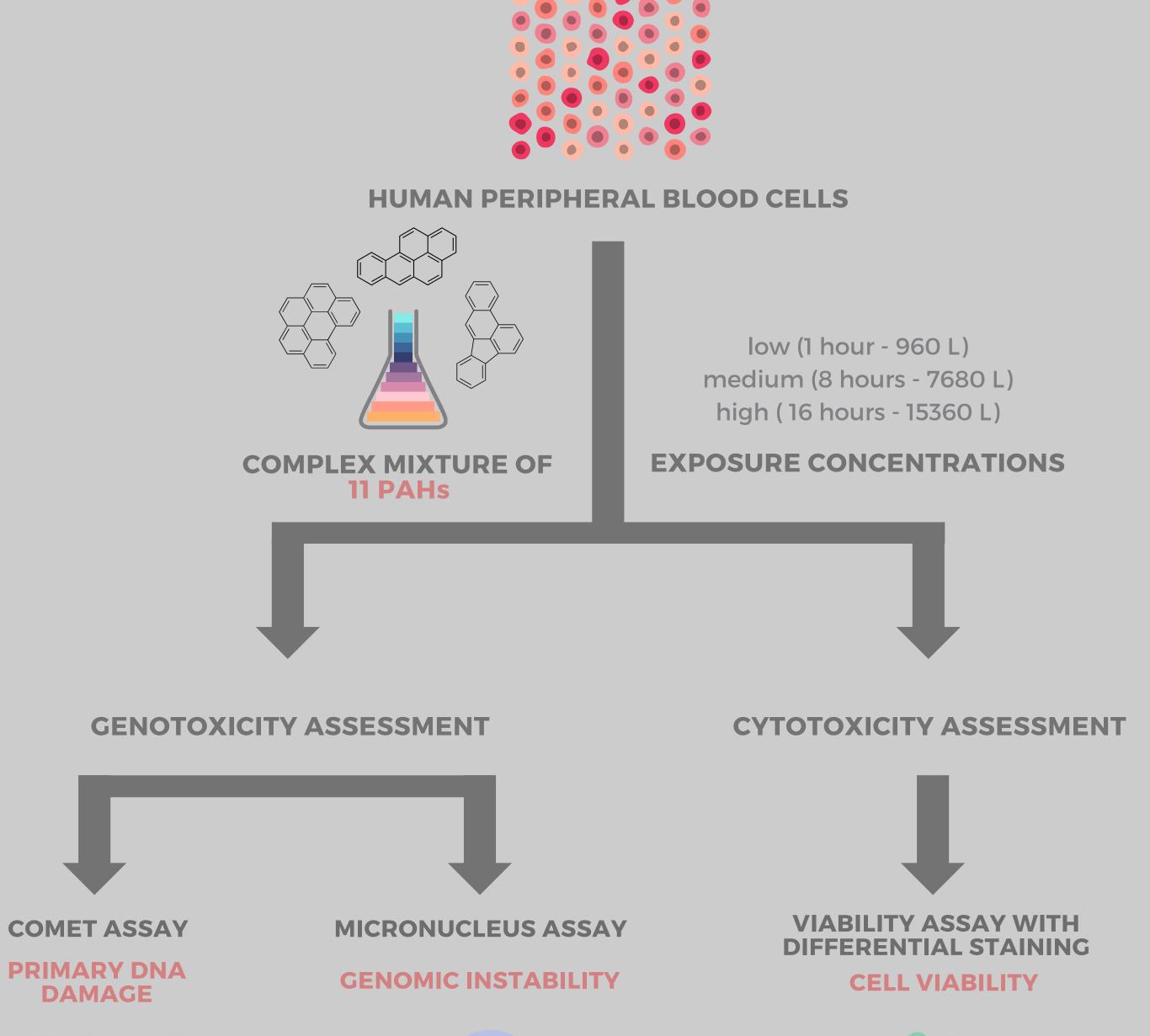
indoor air

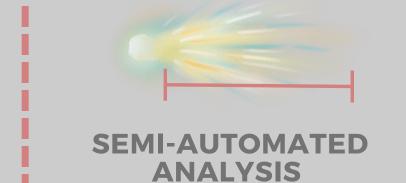
pollution are

associated

ANALYSIS OF INDOOR AIR POLLUTANTS









VISUAL SCORING



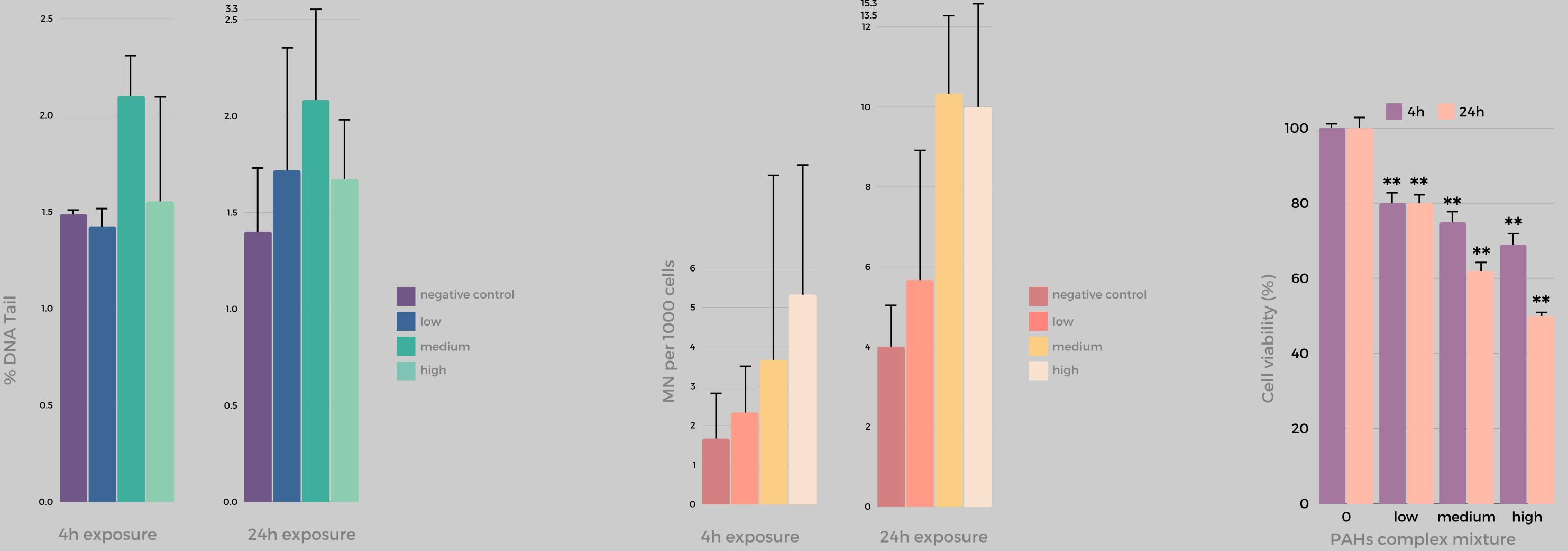
VISUAL SCORING

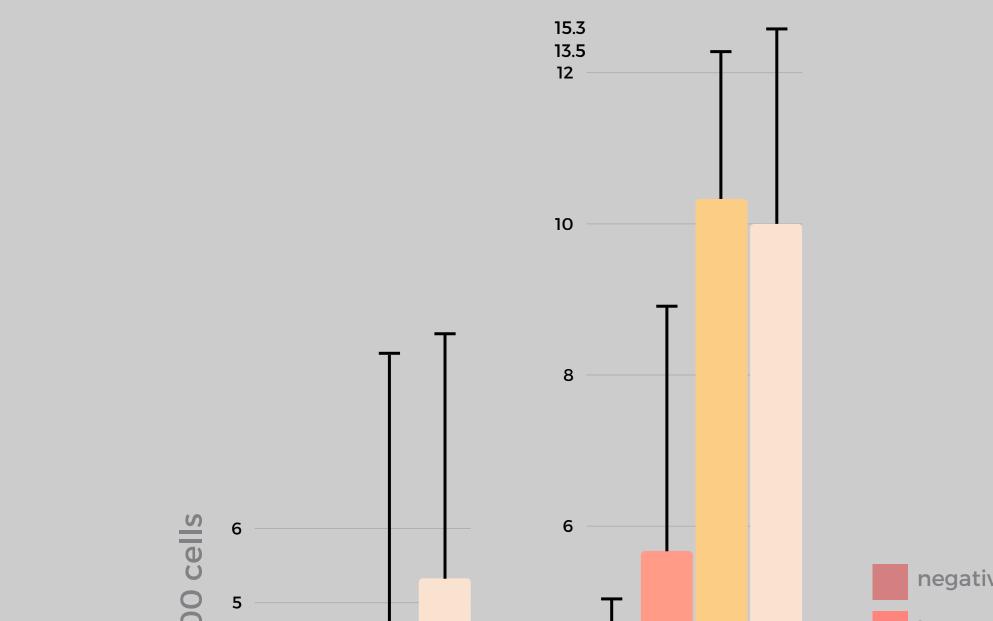
RESULTS

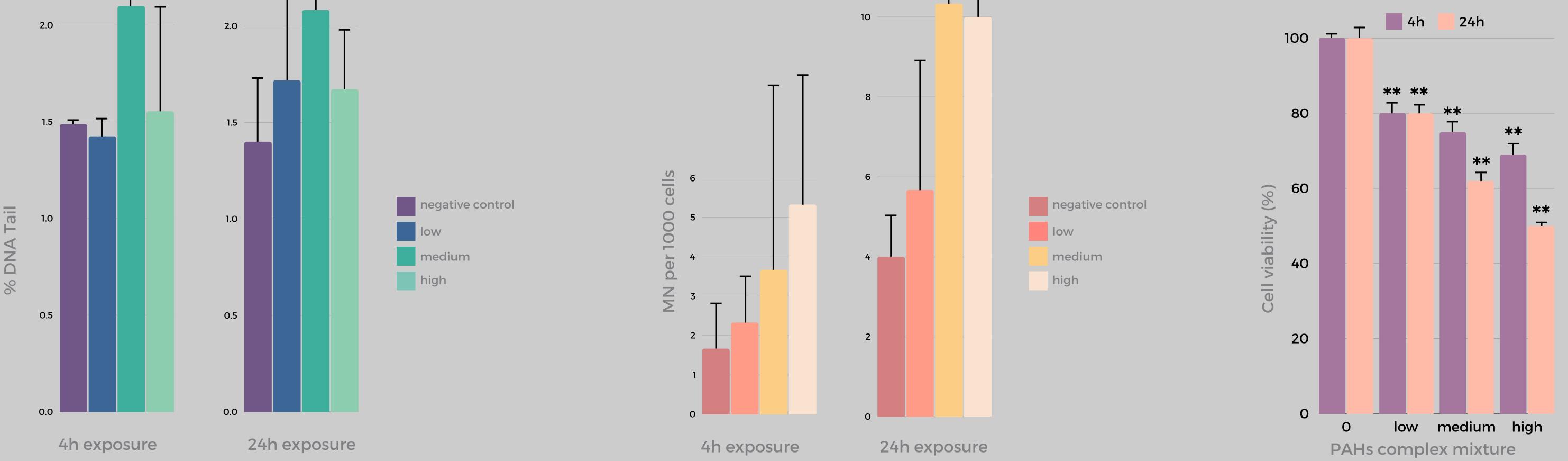
COMET ASSAY RESULTS

MICRONUCLEUS ASSAY RESULTS

VIABILITY ASSAY RESULTS







CONCLUSION

Our findings revealed dose-dependent cytotoxicity, with no significant primary DNA strand breaks detected by the comet assay. However, the CBMN assay indicated increased genomic instability. These results highlight the importance of evaluating mixture toxicity, as individual compound exposures may not fully represent the effects of complex mixtures.

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