and exit area, work area itself, material transfer and basket preparation area) was carried out. Data were analysed to perform the multivariate models required for predictive mathematical modelling (significant variables at the p=0.05 threshold).

**Results** All 994 samples (from 16 counting points) in our 80 m² depressed area complied with the ISO 7 and ISO 8 criteria for particulate contamination. Predictive mathematical modelling of the number of particles was based on the significant criteria ‘time of day’, ‘location of sampling’ and ‘number of people’.

**Conclusion and relevance** Particulate quality criteria were met at rest and especially during activity (which is rarely evaluated). These results could be related to the technical quality of the air plant (all new air and 25 air changes/hour) and the materials and characteristics of the PPE used (low particle release). By taking into account the factors integrated in the mathematical models, smoothing the number of people over the day and increasing the cleaning of risk areas, it will be possible to guarantee and better understand the particular quality of our areas.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

**3PC-023 DEVELOPMENT AND VALIDATION OF A DISCRIMINATIVE METHOD FOR ANTHRACYCLINES USED IN ONCOLOGY BY VISIBLE SPECTROMETER**

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Background and importance Anthracyclines are among the most used anticancer drugs in haematology–oncology, especially in the treatment of solid tumours and leukaemia. High performance liquid chromatography coupled with spectrometry is well established in the control of hospital chemotherapy preparations. However, it remains an expensive method, especially in low income countries. In recent years, UV visible spectrometry associated with partial least square discriminant regression has been used as a method for qualitative and quantitative analysis of drugs in the same therapeutic or physicochemical class.

**Aim and objectives** The aim of the study was to develop a rapid spectrophotometric method for the discrimination of anthracyclines used in chemotherapy in a paediatric haematology–oncology centre by combining UV visible and partial least square analysis (PLS-DA).

**Material and methods** Different anthracyclines used routinely (daunorubicin, doxorubicin and epirubicin) were diluted with sodium chloride 0.5% at different concentrations. They were then analysed using a UV vis spectrometer at a wavelength ranging from 300 to 800 nm. Concentrations corresponding to an absorbance of <1 (A <1) were selected for the study. A calibration model was developed by PLS-DA with 25 samples per product. This model was then optimised and validated using three samples per product by projecting them into the space of the latent variables. The statistical software ‘the

**Abstract 3PC-023 Figure 1**

Unscramble X.10.4’ performed the chemometric analysis of the data.

**Results** The model discriminated between the three compounds with a calibration error RMSEC of 0.098 and a regression coefficient of 0.96. Figure 1 shows the factor map of individuals (plot scores) in the 2–3 plane of the PLS-DA result obtained. All validation samples were correctly assigned with 100% accuracy.

**Conclusion and relevance** This study demonstrated the potential of screw spectrometry associated with the PLS-DA chemometric tool for anthracycline discrimination. It is promising because of its low acquisition cost, speed and ease of use. A calibration range of drug concentrations could allow quantitative control of chemotherapy preparations in the hospital.

REFERENCES AND/OR ACKNOWLEDGEMENTS


No conflict of interest.

**3PC-024 THE EFFECTS OF FREEZE–THAW CYCLING ON THE STABILITY OF THE ADA LIMUMAB BIOSIMILAR SB5**

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Background and importance Temperature excursions may occur during manufacturing, storage, the distribution process and during clinical trials. Limited data are available to hospital pharmacists to support decision making following temperature excursions.

**Aim and objectives** To evaluate the stability of SB5 prefilled syringes (PFS) following short term exposure to high and low temperature conditions.

**Material and methods** SB5 prefilled syringes obtained from a single lot were exposed to three freeze–thaw cycles in their immediate packaging. Each cycle exposed the product to low temperatures (−5±3°C, 48 hours) followed by high temperatures (30±2°C with 65±5% relative humidity (RH), 48 hours). Samples were analysed using a variety of validated methods for appearance, pH, protein concentration, container
MAGISTRAL FORMULATION FOR A PATIENT WITH MULTIPLE FOOD ALLERGY

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Background and importance Multiple food allergy (MFA), in its severe stage, is a pathology with nutritional and pharmacotherapeutic restrictions. Drug intolerance to available medicines and lack of alternatives can lead to magistral formulations.

Aim and objectives To compound oral liquid formulations of iron, zinc and sirolimus by eliminating all preservatives, antioxidants, colourings and flavourings, and evaluate their use in a paediatric patient with MFA.

Material and methods We made a literature review including physicochemical characteristics of the active principles studied and the compounding magistral formulations described. We also compared the composition between these commercialised drugs and simple syrups.

We accomplished all of the controls described in the pharmacopeia for oral liquid forms on days 1 and 30.

Efficacy was evaluated by clinical monitoring from the patient’s birth in 2017.

Results According to our bibliographic review, three active principles were formulated with an adjuvant free vehicle: 64% preservative free simple syrup (PFSS).

The final composition was:

- Sirolimus 0.5 mg/mL oral suspension: sirolimus in 1% preservative free carboxymethylcellulose and PFSS. It was compounded using a pattern the formulation of a tacrolimus suspension, based on molecular similarities.
- Zinc 5 mg/mL oral solution: zinc acetate dihydrate in sterile water 20% and diluted PFSS, based on existing formulations. We used the best tolerated salt.
- Iron 30 mg/mL oral solution: ferrous sulfate heptahydrate in sterile water 20% and diluted PFSS. We chose the salt with the highest absorption and solubility.

Quality controls: the solutions showed clarity and absence of precipitates and the suspension, re-stirrability and homogeneity after stirring. The organoleptic characteristics were not optimal for the taste. The results for microbiological controls were negative.

Due to the physicochemical and microbiological characteristics, a period of validity of 30 days in refrigerated amber glass was considered.

Zinc and iron deficiency were corrected and blood levels of sirolimus were within the adequate range. Currently the patient continues with treatment and an exhaustive follow-up is being carried out.

Conclusion and relevance Our oral liquid formulation was appropriate for the pathology of our patient and contributed to his growth and health. The comprehensive pharmaceutical care and an individualised compounding for the MFA was essential.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest.

FORMULATION AND GALENIC CHARACTERISATION OF A TACROLIMUS ADHESIVE GEL FOR TREATMENT OF ULCERATIVE PROCTITIS

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Background and importance Ulcerative proctitis is associated with faecal incontinence, pain, itching, bleeding and purulent discharge, and is often managed with topical salicylates or steroids. However, treatment can be refractory in some patients. Rectal administration of tacrolimus may be effective in difficult to treat ulcerative proctitis1. Some patients find it difficult to retain rectal pharmaceutical forms, suppositories or enemas, which lead to painful administration and infringement.

Aim and objectives To develop a tacrolimus adhesive gel and its galenic validation, to improve and extend contact time of tacrolimus with rectal mucosal surfaces.