A Functional Steam Bath at a Fantastic Bargain

A sublimation experiment that we recently had scheduled to be carried out in our undergraduate organic chemistry laboratory called for a steam bath as a heat source. A few hours prior to the exercise we discovered to our great dismay that the commercially available steam baths which we had used for many years had been misplaced during the recent displacement of our department for renovation. A frantic search of our facilities produced only a third of the number needed.

We wish to report tne construction of an inexpensive device which ideally served our purposes. A 1000-mL beaker was used as a base for our steam bath. A hose coming from the steam line entered at the spout. The top of the beaker was covered with aluminum foil and a 60-mm hole was cut in its center to allow steam to escape. A cork ring (110-mm o.d.; Sargent #S-23125-B) placed on top of the beaker served as a support which held our 250-mL side-arm sublimation flask.

We found that the results of the students using the extemporized steam bath were equivalent to those of students using the commercial baths. This suggested to us that our innovation could be useful where supplemental steam baths are required or where costs prohibit purchasing large numbers of the preconstructed varieties.

A concern of ours that the 1000-mL beakers would not be large enough reservoirs for condensate from the steam proved to be a needless worry since in the 1–2 h the baths were in use none filled to capacity.

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