Letters

Determination of the Oxygen Content of Air

I have been following with great interest the controversy over the determination of the oxygen content of air summarized in the article by Birk and Lawson, "The Persistence of the Candle-and-Cylinder Misconception", in the July 1999 issue of the *Journal*, and the alternative determination described by Birk, McGrath, and Gunter in the October 1981 issue of this *Journal*.

In Brazil, chemicals such as acetic acid are not readily accessible for laboratory work at the middle and high school level, so I decided to substitute common vinegar. I tried pure vinegar (about 0.8 mol/L acetic acid) and vinegar diluted with an equal volume of water (about 0.4 mol/L). I also used a bigger cylinder (100 mL) than the one suggested by Birk, McGrath, and Gunter, and around 4 grams of steel wool, to improve the visual effect. In both variations I got excellent results. The best result (closest to 21% O_2) was obtained with the diluted vinegar.

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