

# The efficacy of the Schroth method for treatment of adolescent idiopathic scoliosis in the United States

Maureen McKenna, PT, PhD; Jill Hicks, SPT

## Purpose:

The purpose of this research was to examine the effectiveness of the Schroth method for treating adolescent idiopathic scoliosis (AIS) in the U.S.

The Schroth method:

- Is a proactive curve-specific conservative approach
- Originated in Germany in 1921
- Includes patient education, individualized exercises and specific breathing techniques according to the unique spinal curvature pattern of the patient.

## Subjects:

- 10 patients at Scoliosis 3DC, an outpatient clinic in Woburn, Massachusetts
- Aged 10-17
- Female N = 8
- Male N= 2
- Inclusion criteria
  - Diagnosis of AIS
  - Had not undergone spinal surgery
  - Radiologically documented Cobb angle: at least 15°.
- Treated from 2010-2011

## Methods:

- IRB approval from Wheeling Jesuit University
- Interventions:
  - Schroth exercises
  - Rotational angular breathing (RAB)
  - Physio-logic exercises
  - ADLs in corrected positions
  - Scoliosis specific spinal mobilizations
  - Bracing if needed
- Outcome measures:
  - Cobb angle(s)
  - Scoliometry angle(s)
  - Vital capacity (VC)
  - Chest expansion

## Analysis:

- Initial and final measurements were compared
- Paired t-tests
- p value of < 0.05.

**Results:** Table 1: T-test results (\*significance assumed p< 0.05)

	Mean	N	P-value
Cobb 1		9	*0.001
Cobb 2		5	0.056
Scoliometer upper thoracic		6	*0.009
Scoliometer thoracic		10	*0.001
Scoliometer lumbar		10	0.127
Chest expansion		10	*0.0001
Spirometer		10	*0.002

## Conclusions:

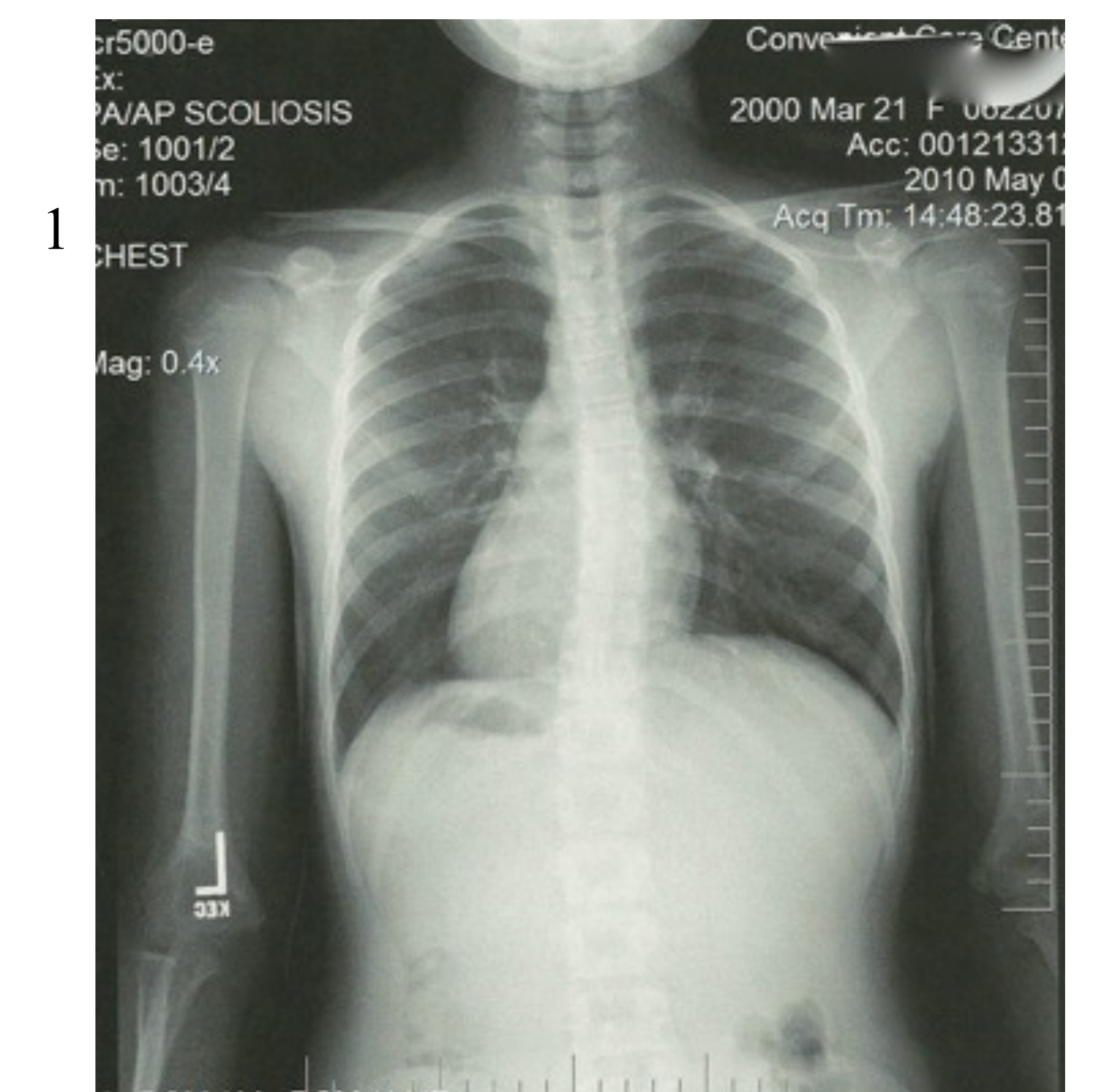
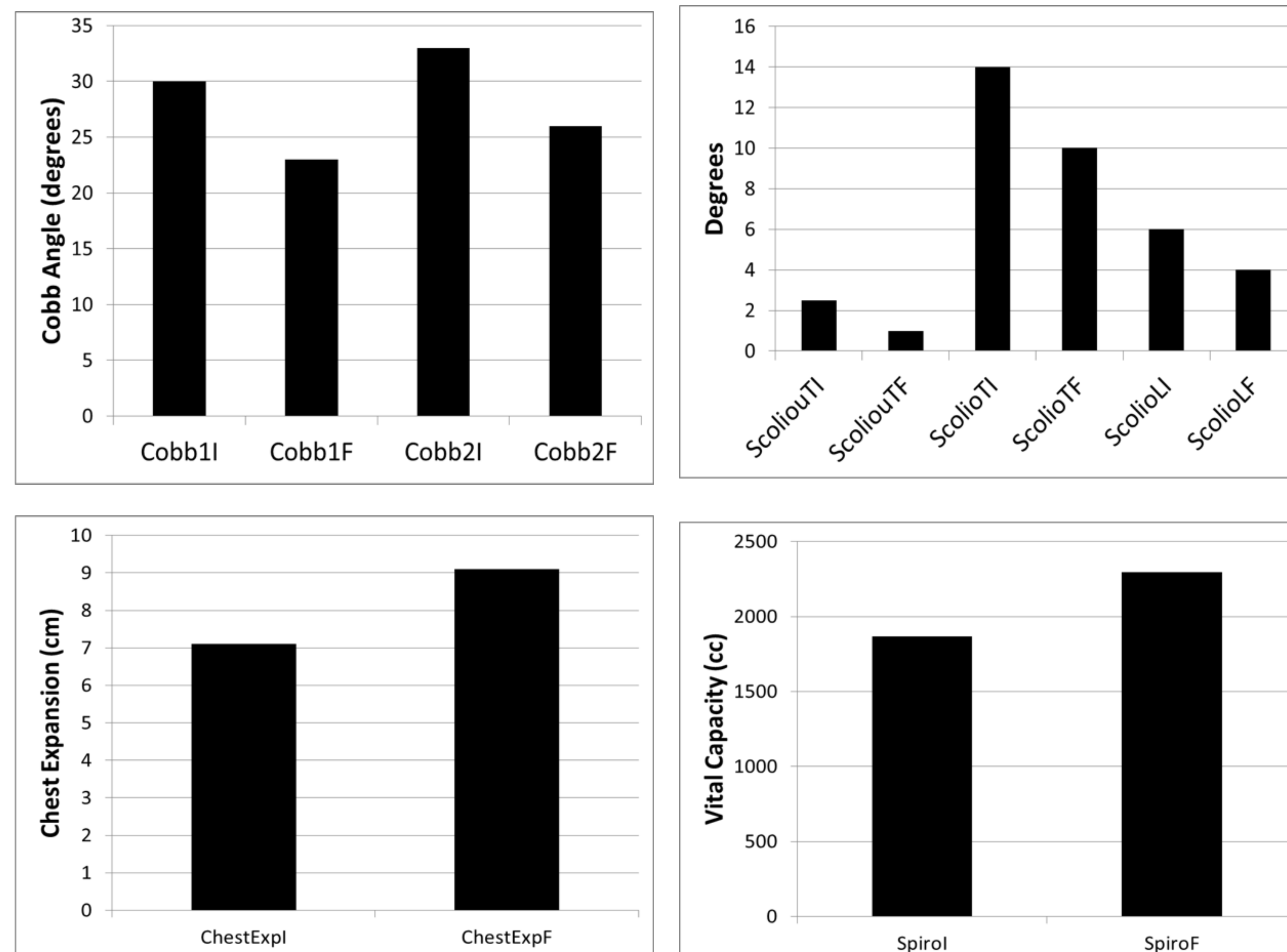
- There was a significant decrease in the Cobb angle, significant decreases in the scoliometer angles, and significant increases in vital capacity and chest expansion after treatment.

- The mean second Cobb angle and mean scoliometer lumbar angle decreased, but not significantly.

## Clinical Implications:

The Schroth method is an effective treatment for scoliosis. The combination of patient education, curve specific exercises, rotational breathing, a life-long commitment to spinal corrections during ADLs, and scoliosis specific spinal mobilizations can significantly reduce the need for scoliosis surgery.

Figures: Mean Cobb angle, scoliometer angle, chest expansion, vital capacity before (I) and after (F) Schroth treatment.



Radiographs of a patient with AIS (1) before (2) after treatment

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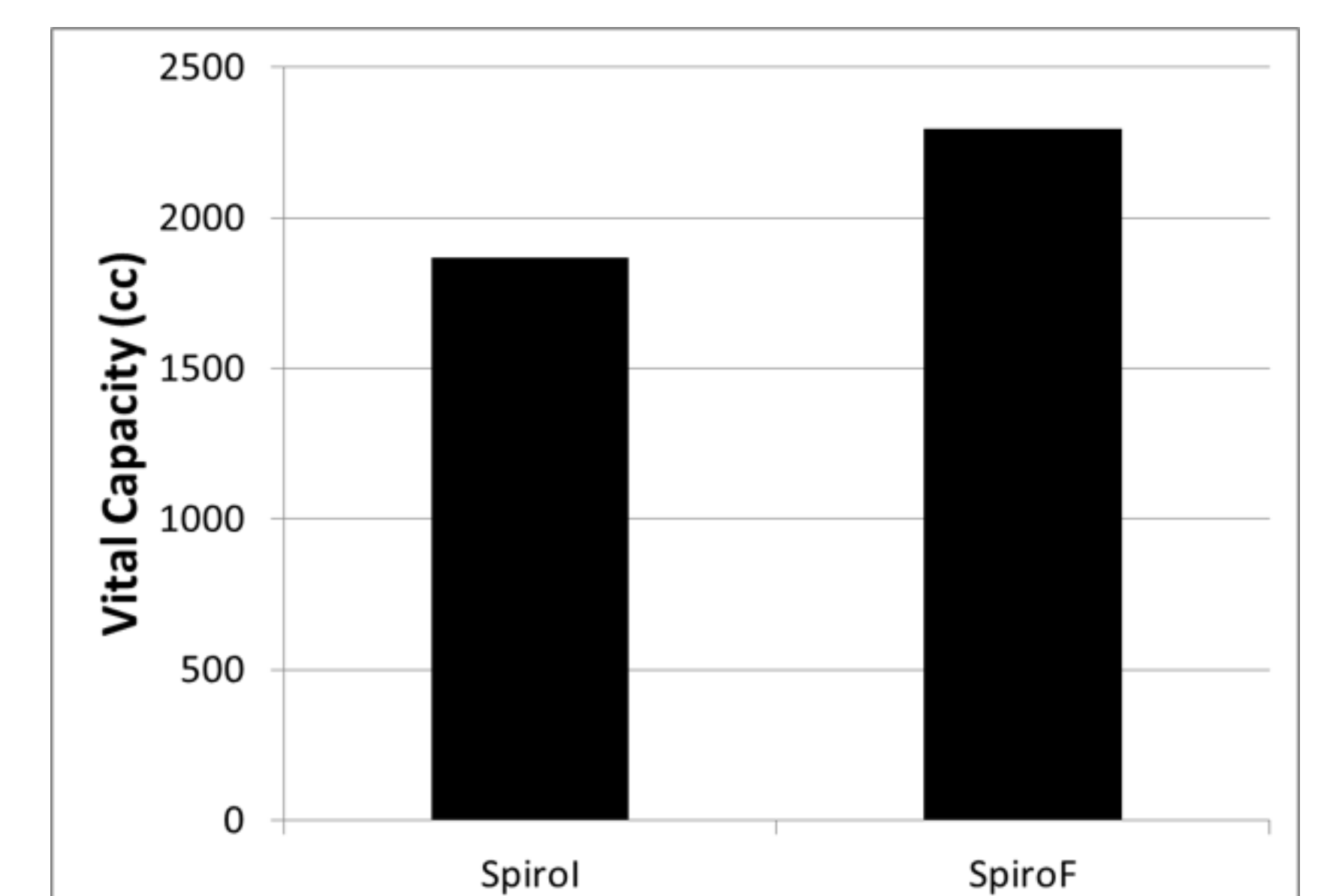
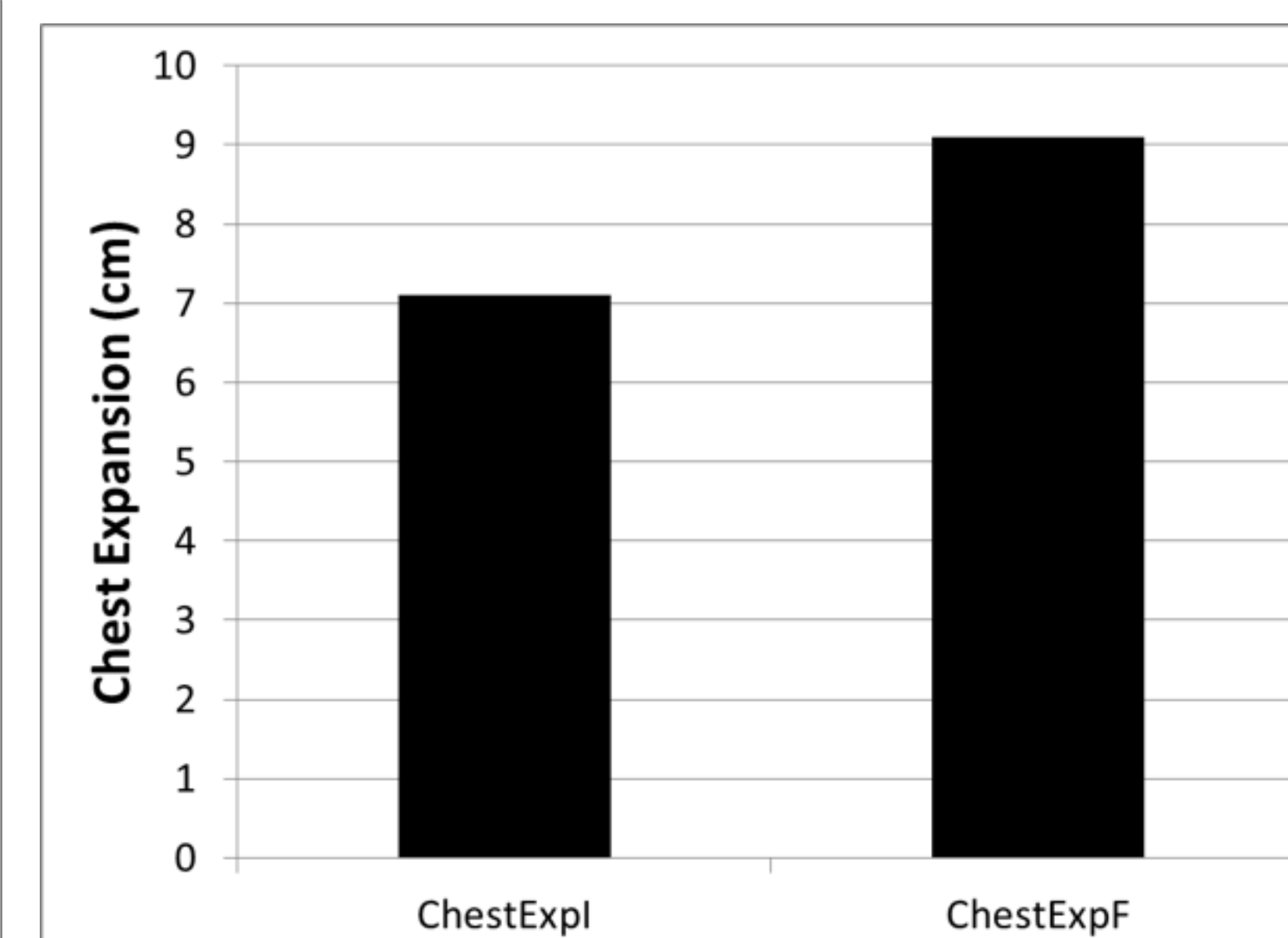
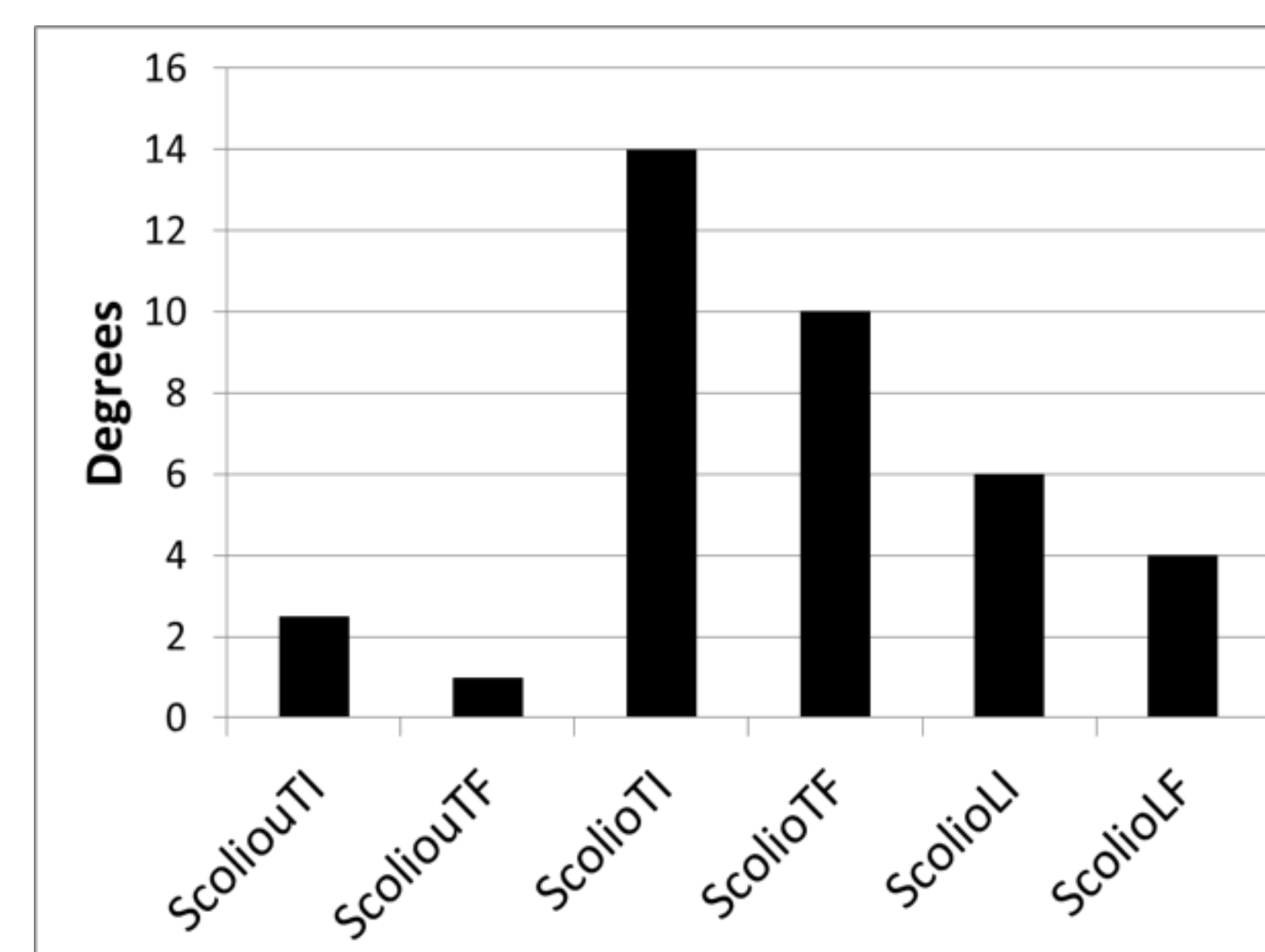
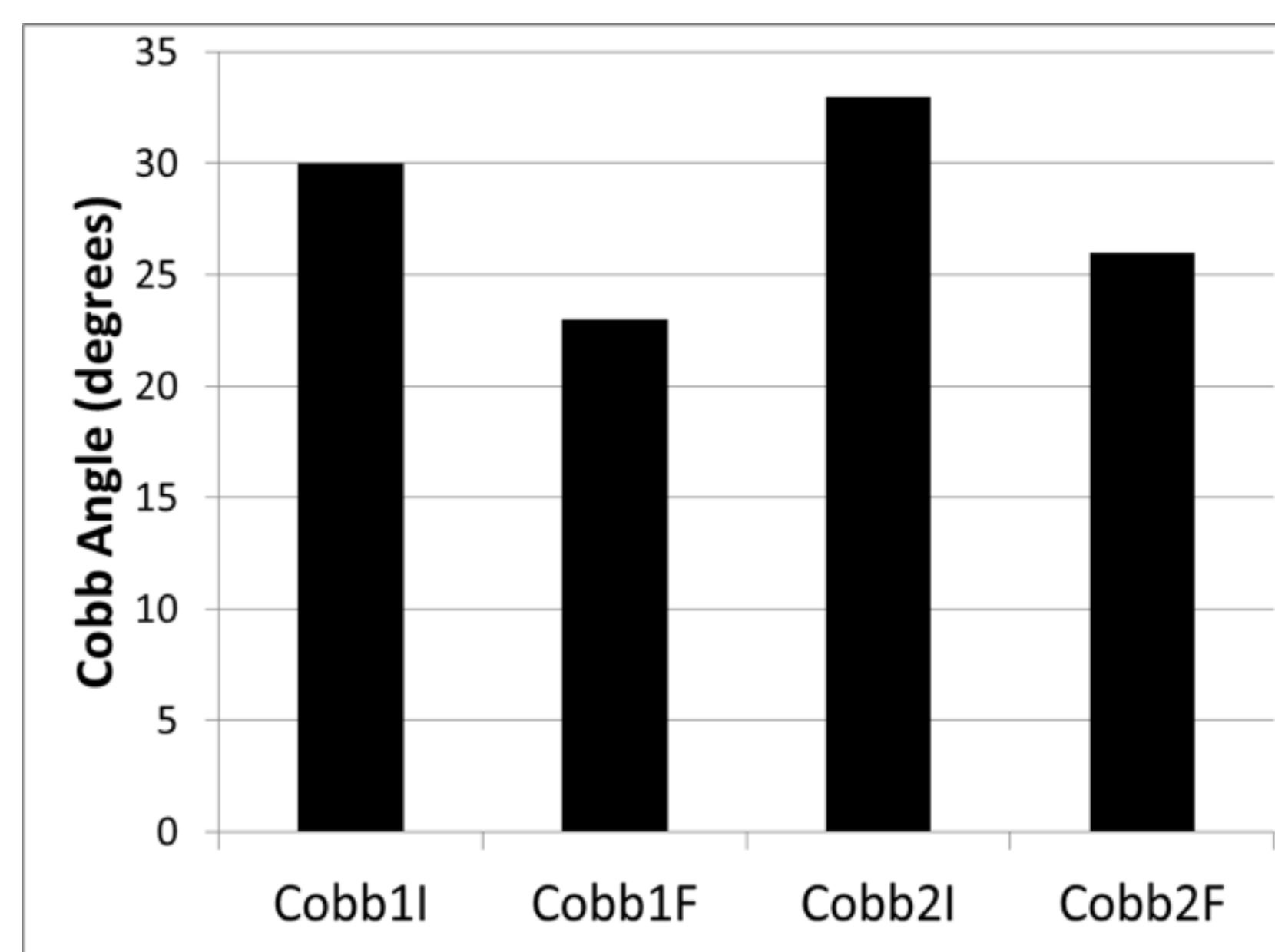
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