

## DATA COLLECTION DESIGN

### STUDY PARTS I - A & II - A

Subject (Try-angle set)	Characteristic of Individual Try-angles (Standard angles <sup>a</sup> by Joint - Position - Subposition)	Raters' measurements <sup>b</sup>												
		Rater 1				Rater 10								
		PGn <sup>c</sup>		SGn		PGn		SGn						
		T1	T2	T1	T2	T1	T2	T1	T2					
Subject 1	MCP - FLEX - 1	d												
	PIP - FLEX - 1													
	DIP - FLEX - 1													
	MCP - EXT - 1													
	PIP - EXT - 1													
	DIP - EXT - 1													
.	.													
	.													
	.													
Subject 12	MCP - FLEX - 12													
	PIP - FLEX - 12													
	DIP - FLEX - 12													
	MCP - EXT - 12													
	PIP - EXT - 12													
	DIP - EXT - 12													

### STUDY PARTS I - B & II - B

Rater (Try-angle set)	Characteristic of Shared Try-angles (Standard angles <sup>a</sup> by Joint - Position - Rater's # - Subposition)	Raters' measurements <sup>b</sup>											
		Subject 1			Subject 12								
		PGn <sup>c</sup>		SGn	PGn		SGn						
		T1	T2	T1	T2	T1	T2						
Rater 11	PIP - EXT - 11 - 1	d											
	PIP - FLEX - 11 - 1												
	PIP - EXT - 11 - 2												
	PIP - FLEX - 11 - 2												
	PIP - EXT - 11 - 3												
	PIP - FLEX - 11 - 3												
	PIP - EXT - 11 - 4												
	PIP - FLEX - 11 - 4												
	PIP - EXT - 11 - 5												
	PIP - FLEX - 11 - 5												
	PIP - EXT - 11 - 6												
	PIP - FLEX - 11 - 6												
Rater 12	PIP - EXT - 12 - 1												
	PIP - FLEX - 12 - 1												
	PIP - EXT - 12 - 2												
	PIP - FLEX - 12 - 2												
	PIP - EXT - 12 - 3												
	PIP - FLEX - 12 - 3												
	PIP - EXT - 12 - 4												
	PIP - FLEX - 12 - 4												
	PIP - EXT - 12 - 5												
	PIP - FLEX - 12 - 5												
	PIP - EXT - 12 - 6												
	PIP - FLEX - 12 - 6												

I & II = replicate study stages; SGn = standard finger goniometer; PGn = paper strip goniometer; T = trial; MCP, PIP, and DIP = metacarpophalangeal, proximal interphalangeal, and distal interphalangeal joints, respectively; FLEX, EXT = positions of imitated flexion and extension, respectively; # = number.

<sup>a</sup> more details, including values of the standard angles, are presented in Additional file 3;

<sup>b</sup> observed angles of the joints positioned by the appropriate try-angles; <sup>c</sup> angle values were obtained after computerized measurements of diagrams; <sup>d</sup> empty cells for appropriate angles in degrees.

**Note** = the raters of the study stage I became subjects of the study stage II; and the subjects of the study stage I became raters of the study stage II.