7/12/14 Outline for Chapter 3 sections.

**3.1 Introduction** This section has to be coordinated with Chapter 1.

**3.1.1 Some** **History** Finish later.

**3.1.2 Purpose of this study.**

Uncertainty about chain packing. Needed oriented WAXS, especially tWAXS. Found many more LAXS reflections (move Fig. 3.12 here), so an added purpose became higher resolution EDP. End with a paragraph introducing the following sections in this outline. Write this after subsequent sections are finished.

**3.2** **M&M** Just some touch-ups needed. Also, put current 3.3.2 at end of this section.

**3.3 LAXS Data Reduction**

Start with a short prologue to the subsections. Say the unit cell lattice structure reviewed in 3.3.1 is very straightforward since W&W – only depends on the q values of the peaks. The remaining sections deal with obtaining the unit cell form factors from the observed peak intensities. This involves considerably more analysis than what W&W had to do for unoriented samples as shown in 3.3.3-3.3.5.

**3.4 Results for |Fhk| form factors**

(Note that the old section 3.4 comes later. Even if the later analysis is not accepted, these are the basic data that should be established before modeling.) Crucial table 3.7/8. Much more discussion of how estimated uncertainties were obtained and show correction factors. Then, table 3.6 and more discussion about comparison with W&W.

**3.5 Models to fit the |Fhk| and obtain the phases**

Include current 3.4.1, 3.4.2 and then a subsection featuring Table A.2 with a thorough discussion of the phases and their uncertainties. Include Fig. 3.25.

**3.6 Electron density profiles and coarse grained bilayer structure**

Some more phase choices needed.

WAXS later.